# GAS JOURNAL

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## AREA BOARD APPOINTMENTS

WEEK by week during the past few months tension within the gas industry increased regarding the appointment by the Minister of Fuel and Power of the Chairmen of the Area Boards under nationalization. Speculation has been rife and rumour persistent, and the patience of many has been tried. Last Friday broke the tension and killed rumour and speculation. The Minister of Fuel and Power announced in the House of Commons the names of those appointed as Area Board Chairmen, and we give on a later page the names of those selected to fill these important posts under the nationalization of the gas industry. It had for some time been thought that there would be surprises; and in the event the list is certainly not lacking in heterogeneity. Seven of those appointed from what may be termed "within the gas industry" can occasion no surprise. The *raison d'etre* for the selection of the five newcomers to the industry can be understood fully only by Mr. Gaitskell. The Minister had, of course, a wide field from which to choose. He could appoint anyone "appearing to him to be qualified as having had experience of, and shown capacity in, gas supply, local government, industrial, commercial, or financial matters, applied science, or the organization of workers." He has obviously found this width of choice—we will not say convenient or even expedient—helpful. The Chairmen of the Area Boards automatically become members of the Gas Council, the Chairman and Deputy-Chairman of which body have, of course, already been appointed. It is, therefore, a consolation and a reassurance that the Gas Council has in its membership a predominant weight of men of high and proved ability in either gas administration or gas engineering or in both. And we know that, the choice having been made, the personnel of the gas industry, in whatever Area, will give their unstinted and traditional support to the Chairmen. At the top we have a leavening of the "new outlook." It is fashionable. We hope that it presages well.

## A ROYAL OCCASION

ON Thursday of last week Her Royal Highness the Duchess of Kent visited the Beckton Works of the Gas Light and Coke Company to inaugurate the third battery of coke ovens and also to lay the foundation stone of a welfare centre at the Products Works. The occasion was memorable and marked a continuity of the interest taken by the Royal Family in the progress of this great and historic works. It was in 1926 that King George V and Queen Mary opened the coal handling plant, while the first two batteries of coke ovens were inaugurated by the Prince of Wales in 1932.

Both the schemes opened last Thursday are on the grand scale. The ovens are part of an expansion plan which will cost at least £8 mill.; and the plan provides for a fourth battery in 1950 and later on a fifth battery. When completed the composite plant will carbonize 3,000 tons of coal a day giving a daily output of 37 mill. cu.ft. of gas; and work has begun on a carburetted water gas plant capable of making 18 mill. cu.ft. of gas a day. It is reassuring to know that these plans, conceived under private enterprise, will not be affected by nationalization. We quote from the well-delivered and admirably brief speech of the Gas Light and Coke Company's Governor, Mr. Michael Milne-Watson, who has a pleasing sense of the value of tradition: "As one of the greatest public utilities of its kind in the world, this Company has always belonged in the larger sense to the public and was built up to its present size only because those who conducted its affairs over the years kept as their objective service to the community." Let us turn to the new welfare block at the Products Works. The works is to be rebuilt. It is fitting that a welfare centre should head reconstruction plans. At the moment there are 1,000 employees in this particular branch of Beckton. The welfare building involves the capital expenditure of £200 per worker. The building, an artist's impression of which we publish on a later page, is to serve as a model for other works in the Company's area. The conception is acknowledgment of the spirit of the times; but this "spirit of the times" is not a 1948 awakening. As example, the Company's first sickness fund dates back as far as 1830. The Company is, in fact, carrying on a tradition; it is a question of, according to the times, translating into practice a principle—the unshaken principle of happy relationship in every phase of the Company's work, directed to the common good.

## INTEGRATION THROUGH GROUPING

AN enthusiastic reception was given to the paper by Mr. Alex. McDonald to the Manchester District Association of Gas Engineers. The paper, which will be found on later pages of our issue to-day, explained the advantages to be gained as a result of grouping of gas undertakings. Integration may broadly be divided into two groups—physical integration, which may allow the closing-down of certain production stations; and integration of management and control without physical link-up. It was with the latter type of integration that the author was concerned, and it can be said that the scheme of amalgamation and grouping in the York-Harrogate area has been fully justified and that its success has been due largely to the maintenance of the team spirit and the encouragement of decentralization and individual responsibility A scheme of the kind can be justified only if it results in a better service to the consumer with over-all economy. The cost of the scheme is a primary consideration. The York-Harrogate plan, outlined with commendable clarity by Mr. McDonald, has proved itself economically in the interests of the consumers in the area covered. Within the group resources have been pooled so that costs to the individual units are minimized and consumers obtain the benefit of the cheapest supply; facilities have been improved so that consumers in every part of the area receive a better service;

and specialists have been appointed whose services become available to the smallest as well as to the largest undertaking. In his paper the author drew a picture of the organization and working of the group, of which he is General Manager, to show how these three principles have been satisfied. The individual boards of directors of the six undertakings concerned have been maintained, the while being planned into the integrated group. There can be little doubt that the decision to delegate authority and responsibility downwards has contributed in no small measure to the success of the organization. Such a system gives encouragement and lends prestige to the officials in junior positions and develops individual initiative and keenness. And particularly important is the method of keeping separate statistics of the different undertakings. The paper will be widely studied, especially in view of nationalization of the gas industry. The maintenance of the team spirit in the Area Boards will largely determine the success of their operation. Unless the individual is allowed to take his full share of responsibility—unless he is sufficiently in the picture to enable him to take his full share, then the organization will not work as it could and should work.

## STATE CONTROL OF INDUSTRY

THE nationalization issue, as such and on a broad basis, has again entertained the House of Commons. The clothes rack on which members hung their different dyed blazers or jerseys (for fighting spirit was shown) was unambiguously labelled "Steel Nationalization." Parliamentary gloves were thrown to the floor and the gauntlets were, by Party agreement, retrieved on Nov. 2 and 3. The skirmish was interesting, the weaker team (weaker in voting power only) putting up a good show against numerical superiority. Mr. R. S. Hudson, having got off from the mark after the customary page or so of Hansard, was telling. He remarked on the lecturing propensity of the Chancellor of the Exchequer, who came amid experienced industrialists as a minor prophet. He asked whether Sir Stafford Cripps could regard with unalloyed satisfaction the results to date of the nationalization of the coal industry. It was obvious that targets would not be reached; in a nutshell, the N.C.B. had a deplorable record. And in any case it was a myth that a man would work harder or more willingly for a State concern than for private enterprise. Mr. Hudson thereupon came more firmly to his dossier. In 1939 the pithead cost of coal was 17s. 11d. a ton; at the end of 1946, at the end of private enterprise, it was 39s. 4d. By mid-1948 it had risen to 47s. 1d. State efficiency? There might be a flourish of State trumpets, but the Coal Board showed no signs of a box-office draw. "There is," Mr. Hudson roundly maintained, "an overwhelming case against any further extension of this experiment of nationalization."

The Chancellor of the Duchy of Lancaster rose with solemnity, marshalling his arguments for the numerically superior side. He spoke of the Bank of England as example of first-class nationalization. In answer to which Sir William Darling asked: "Is it seriously said, in the streets and in the lanes, on the fields and on the hills of our country, that the people rejoice to-day almost every hour, saying, 'Five years ago the unfortunate British people did not own the Bank of England, but now we own the Bank of England,' and ecstatically plough, hoe and drive the tractors across the fields, rejoicing in this new-found happiness?" Sir William suggested that the university-bred group of Socialists who had inherited the ideas of their fathers, who had brought monopolist economics under the label of Socialism, should ponder whether the designs of our shirts are better as a result of public ownership. Mr. Dalton remarked that the deficit shown in the first year's working of the National Coal Board did not fall on the taxpayer, and regarding iron and steel the Government would persist in nationalization.

Colonel Lancaster expressed the view that any Government which nationalizes an industry is confronted with a very real problem when it comes to the appointment of those who must run the industry on its behalf. It must either set up a board which is pliable and somewhat nebulous in character or it must appoint a strong-minded board which will probably go somewhat contrary to the view of the Government and the particular Minister of the day. The temptation must be to veer to the former of these two alternatives. Unless the Government is singularly lucky, the chances of selecting the right men are not great; and by the nature of nationalization great power is concentrated in the hands of these men. Sir David Robertson explained that he had read biographies of members of the Government, and these indicated that the Ministers have no experience in running industrial or commercial undertakings, either on their own account or as directors, or even at management levels.

During the debate on Nov. 3, Mr. Brendan Bracken remarked that those serving on the nationalized boards were honourable and in some cases very able men, but they were struggling with badly designed organizations. The remote and bureaucratic control of the Coal Board frustrated the miners and managers, thereby diminishing production and inflicting heavy burdens on the public. And surely wisdom lay in proving the success of one nationalized industry before other industries were nationalized. Mr. Gaitskell, Minister of Fuel and Power, said the real issue was whether and how far the results in the nationalized industries compared with what they would have been had private enterprise continued in those industries. The Opposition were criticizing nationalization of steel on the alleged failure of other nationalized industries, but if we had not nationalized coal the country would now be facing industrial disaster. He added that the Government had been subject to criticism on the matter of increased prices of coal, but they had to take into account the need for the N.C.B. to pay its way and to repay the losses in its first year, and also the inflationary consequences of any sharp increase in prices. If private enterprise had been in existence, in all probability the increase in prices would have had to be considerably larger. Nobody denied that production results this year had been disappointing compared with the hopes expressed at the beginning of the year, but in the 43 weeks of this year we had produced 9 mill. tons more of deep-mined coal than last year. He did not suggest that the Government were satisfied with the present position, because they could not afford to give the industry anything but a stiff target at the moment, and could not be satisfied when exports were at a fraction of the pre-war level.

On division, the voting showed a Government majority of 164, and the motion for an Address in reply to the King's Speech was agreed to.

## *WEST MIDLANDS MASTER PLAN*

In five duplicated volumes containing three-quarters of a million words, Sir Patrick Abercrombie and Mr. Herbert Jackson have produced the survey and plan of the West Midlands which Mr. Silkin commissioned 16 months ago. Sir Patrick and Mr. Jackson were appointed joint planning consultants by the Ministry of Town and Country Planning after discussion with the local authorities of the region who will use the report in preparing their outline plans for development which have to be ready by July, 1951. The region covered is Worcestershire, Warwickshire, and South Staffordshire, including Birmingham and the Black Country. The report is comparable in many ways with the plan which Sir Patrick Abercrombie prepared for Greater London, and it includes a study by Mr. Clive Williams of the region's population which should interest all who have to plan for future industrial demands. Mr. Williams's survey leads to the conclusion that the economic and natural advantages of the West Midlands, second only to Greater London as a built-up area, a producer of wealth, and a magnet for industry and population, far from being reduced, cannot and should not be restricted to its present size, especially since the national need for exports is permanently enhancing the demand for goods which it is well equipped to produce. Immi-

gration and natural increase are estimated to cause the region's population to grow from about 3,400,000 in 1947 to 3,785,000 by 1962. Provided a substantial reshuffling of homes and workplaces within the region can be effected, the planning consultants believe that the region can accommodate such a population, allowing ample space for work, health, and leisure. Most of the increase of population, they say, should be settled in the industrial and country towns well away from the central "conurbation" of Birmingham and the Black Country. Burton, Redditch, Stafford, Worcester, and other towns would benefit by expanding their population up to 50,000 or 60,000; Rugby would move up to the 90,000 mark, and Coventry, which is said to lack diversity of employment and social life, from 245,000 to 306,000. In order to retain roughly its present population, the "conurbation" would have to "export" more than 250,000 people by 1962, but dispersal of the population on this scale is regarded as essential for the proper development of the crowded central districts of Birmingham and the Black Country. The planners accept economic realities frankly and lay down a strategy for the redeployment of forces in the region. Decentralization and dispersal are well to the fore in the plan, but they represent a remarshalling of forces within a region which, it is planned, will continue to expand. It freely accepts the idea of "conurbation" frowned on by so many planners of a green and pleasant land, for it states: "A conurbation is the logical urban machine to go with a policy of full employment." Then the plan wastes no time in seeking for sites for "new towns": its proposal is to revitalize old towns by an injection of the surplus population from other centres.

### *A STATISTICAL RECORD*

Published by the Bureau of Statistics of the American Gas Association, *Gas Facts* is a complete statistical record of the gas industry in the United States in 1947. Maps and charts supplement its 195 pages of information of production, energy reserves, distribution, sales finance, labour, and prices. Such detailed information is only available for the British gas industry after laborious correlation of statistics from many different sources: this volume has been made possible through the "generally excellent" co-operation of the gas industry in submitting information. This, it is stated, is particularly true of data relating to customers, sales, and revenues, for which the coverage in 1947 was better than 97%. Revenue trends which were in evidence in 1945-46 generally continued at an accelerated pace, the book reveals. Total revenues of gas undertakings attained an all-time record of 1.4 billion dollars, 15.2% higher than the previous peak of 1.21 billion in 1946. Manufactured gas revenues were 413.5 mill. dollars in 1947, an increase of 8.3% over 1946, despite conversions by a number of undertakings from manufactured to other types of gas, resulting in a smaller number of manufactured gas consumers than in the previous years. Natural gas revenues showed the greatest gain in 1947 among the three major gas groups, being 848.3 mill. dollars or 19% greater than 1946. Mixed gas revenues were 10.4% higher at 122.1 mill. dollars. The total quantities of solid fuels used by utilities in the production of manufactured gas continued to decline though the volume of gas produced increased from 490 billion cu.ft. in 1946 to 523 billion cu.ft. in 1947, a gain of 6.7%. In 1947 there were used 11,366,400 tons of solid fuels, which was 3.6% less than in 1946. The decline was restricted to the consumption of bituminous coal and reflected in part the increasing output of carburetted water gas and the declining output of coal gas. The price paid for bituminous coal advanced 19%, anthracite 29%, and coke 19%, while the average price paid for oil increased 36%. The largest number of consumers in the industry's history was supplied with gas in 1947. Of the 21.4 mill. consumers—800,000 more than in the previous peak year of 1946—93% were domestic. Employment in the gas industry also reached its highest level on record in 1947, the 153,000 employees representing an increase of 19,400 over 1946. The aggregate wage bill for the whole industry was 446 mill. dollars.

## Personal

Mr. H. P. BARKER (Managing Director of Parkinson & Cowan, Ltd.), and Mr. J. W. BROAD (Sales Manager of the Parkinson Stove Co., Ltd.) are on a business tour in America.

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Past and present employees of the Bournemouth Gas and Water Company have presented an illuminated address in book form to Colonel H. W. WOODALL, who has been connected with the Company, first as Engineer and General Manager, and afterwards as Director, for nearly 50 years. The address is signed by all the old employees of the Company who served under Colonel Woodall before the first world war, and the presentation, which took place at Waterston Manor last month, was made jointly by Mr. J. T. Haynes, Engineer and General Manager, Mr. B. W. Hollis, and Mr. E. Manuel, representing past and present employees.

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Dr. D. T. A. TOWNEND, who succeeds Dr. C. H. Lander, was installed as President of the Institute of Fuel at a recent meeting of the London Section of the Institute. Dr. Townend was called in 1938 to the Livesey Professorship in the University of Leeds in succession to Professor J. W. Cobb, and between then and 1946 was head of the Department of Coal Gas and Fuel Industries with Metallurgy in that University. Early in 1945 Dr. Townend was invited to become Director of the British Coal Utilization Research Association and, following a period of service in a part-time capacity, he accepted full appointment in May, 1946. He became Director-General in 1947, a post which he now holds.

## Obituary

The death of Mrs. ADA KING, wife of Mr. E. J. King, Director of Robert Dempster & Sons, Ltd., Elland, has occurred in her 80th year after a long illness. Mrs. King had a wide circle of friends in the gas industry, and was prominently associated with social welfare work in Elland. She is survived by her husband and two sons, Mr. Ernest W. King, Director of C. R. Averill & Co., Ltd., and Mr. Leonard F. King, Southern Sales Manager of Fletcher Russell & Co., Ltd., of Radiation, Ltd.

## Diary

Nov. 11.—**Yorkshire Junior Gas Association**: Visit to the works of W. C. Holmes & Co., Ltd., Huddersfield, and of Messrs. David Brown (Huddersfield), Ltd.

Nov. 12.—**Eastern Association of Gas Engineers and Managers**: Autumn Meeting, 2.15 p.m., preceded by luncheon at 12.30 for 12.45 p.m. Waldorf Hotel, Aldwych, London.

Nov. 15.—**London and Counties Coke Association**: Annual Luncheon, 1 p.m. for 1.15 p.m.; Annual General Meeting, 2.45 p.m. Grosvenor House, Park Lane, W.1.

Nov. 15.—**London and Counties Coke Association**: Finance Committee, 10.30 a.m.; Executive Committee, 11 a.m.; Central Committee, 11.30 a.m. Grosvenor House, W.1.

Nov. 18.—**Midland Junior Gas Association**: Visit to Henry Wiggin & Co., Ltd., Birmingham, 4.30 p.m.

Nov. 19.—**London and Southern Junior Gas Association**: "The Production and Use of Film Strip as a Visual Aid in Training and the Presentation of Technical Papers," R. N. LeFevre; and "The Publication of Technical Papers," Clifford A. King. Gas Industry House, 7 p.m.

Nov. 24.—**Western Junior Gas Association**: Visit to Weston-super-Mare. "The Application of Electricity on Gas-works," E. N. Evans (Lancashire Dynamo & Crypto, Ltd.).

Nov. 24-25.—**Institution of Gas Engineers**: 14th Autumn Research Meeting, London.

Nov. 30.—**Southern Association of Gas Engineers and Managers (Eastern District)**: "The Place of Transport Service in the Gas Industry," H. M. Lawrence, Transport Manager, Gas Light and Coke Company. Gas Industry House 2.30 p.m.

## "PLUG-IN" CONNEXIONS

The British Standards Institution has just published a revised British Standard Specification for "plug-in" connexions for portable gas burning appliances. The Technical Committee responsible worked under the Chairmanship of Mr. S. F. Dunkley.

With any form of plug and socket connexion, ease of connexion, interchangeability, and long life are essential Care has been taken to cover these points, and the specification is comprehensive in this respect. To minimize the possibility of difficult connexion by the user due to wear and tear, the composition of all metals used in its manufacture has been specified. The external design has also been improved to give an appearance more in conformity with modern taste, to ensure long life, and to reduce to a minimum the possibility of damage.

A new and important feature of this British Standard Specification is the inclusion of 24 fully dimensioned inspection gauges to ensure precision manufacture of the many component parts, together with satisfactory interchangeability and ease of connexion for the user between the plug and socket.

Copies of this Standard may be obtained from the British Standards Institution, Sales Department, 24, Victoria Street, London, S.W.1, price 2s. 6d. post free.

# News in Brief

**Members** of the Institution of Gas Engineers are invited to attend a joint meeting of the Institution of Engineers-in-Charge and the Association of Supervising Electrical Engineers to be held at Magnet House, Kingsway, W.C.2, on Nov. 16, at 6.15 p.m. A paper will be read at this meeting by Mr. R. Holbech on " Modern Ventilating Systems," and Mr. F. Winstanley will be in the chair. Tickets for the meeting can be obtained on application to the Secretary, Institution of Gas Engineers, 1, Grosvenor Place, S.W.1.

**Lectures on Gas Boiler Thermostats** have been given to the sales staffs, inspectors, and gas fitters of the Torquay and Paignton Gas Company, and also to employees of local heating and ventilating engineers, by Mr. E. G. Brooks, General Manager of Thomas Potterton (Heating Engineers), Ltd., and Director of De La Rue Gas Development, Ltd. (Perfecta Division), assisted by Mr. A. C. D. Smith, in charge of the Perfecta Division. Interest in the lectures was enhanced by the use of charts, sectional models, and visual working models demonstrating thermostats, flame failure devices, relay valves, &c., in operation.

**In the Autumn Number** of *Commentary*, the quarterly magazine of the Women's Gas Council, is published a letter from Mr. A. E. Sylvester, Chairman Designate of the new Gas Council. Mr. Sylvester states that the work of the Women's Gas Council has been of tremendous value to the gas industry, that it is " unthinkable that it should not continue under the new regime." " As I see it," Mr. Sylvester writes, " your Council has a dual function, therefore, one to help the housewife to take the best possible value from the gas she uses, and the other to give the benefit of your experience to the industry, so that it can continue the service which it gives to the public and in particular to the housewife."

**The Minister of Fuel and Power** has appointed, under Section 7 of the Electricity Act, 1947, the Chairmen Designate of the Electricity Consultative Councils, who will be ex officio part-time members of the 14 Area Boards concerned. All of the Chairmen are or were associated with local authorities or trade unions, some also having been connected with electricity supply undertakings. Under Section 9 of the Gas Act, 1948, the Gas Consultative Councils have to be established not later than six months after the vesting date. Under Section 17 the vesting date must not be less than three months after the establishment of the Gas Council and all the Area Boards and not earlier than April 1, 1949. Under Section 5 an Area Board is deemed to be properly constituted if the Chairman and three of its members have been appointed by the Minister. The only appointments so far announced are those of the Chairmen of the Area Boards.

**The Fifth Women's Gas Council Branch** to be set up in Scotland, the Greenock Women's Gas Council, has been formed at a meeting at the showrooms of Greenock Gas Department. Miss D. W. Pidsley, Assistant Secretary, Women's Gas Council headquarters, London, said of the objects of the organization that it was felt that there was a need for a link between the gas industry and the consumer, and between the consumer and the appliance manufacturer. By talks and demonstrations women would be advised on the best methods of working in the home, so that they could have more leisure time. Members must not think that all the " traffic " was one-way. Women would be asked by the Council to make suggestions for improvements in household utensils, planning of the home, and kindred subjects. Nationalization would make little difference to the organization. When the gas industry was nationalized, the country would be divided into areas, each served by a Consultative Council, which would provide a link between the Government and the consumer. It was hoped that members of the Women's Gas Council would be represented on the Consultative Councils.

**Glasgow Corporation** should utilize a daily surplus of 1 mill. cu.ft. of coke oven gas from Dumbreck Colliery, Kilsyth, advises Councillor Victor D. Warren in a letter to the Lord Provost. It would, he states, be criminally negligent if they did not avail themselves of this surplus gas, particularly in view of the potential cuts in domestic fuel in the city. Earlier this year Councillor Warren suggested that consultation should take place with National Coal Board, the Ministry of Fuel and Power and other bodies, including the Board of Industry, on the advisability of the Corporation erecting new gas retorts. Recently he discussed the matter with Captain Thorneycroft, Deputy Chairman of the Scottish Board, and Dr. William Reid, both of whom admitted that the question of obtaining surplus coke oven gas is one for the steel industry. It is more than likely that the Scottish steel industry will require and use any surplus which it manufactures in the course of operations. But, Councillor Warren states, it was revealed that there is a surplus of 1 mill. cu.ft. per day at present available at Dumbreck Colliery and a prospect that there will be a further 1 mill. cu.ft. available. The colliery is between six and seven miles from the city boundary, and it is suggested that pipes running to Cadder and Bishopsbriggs could be extended comparatively easily.

**Street Lamp Breaking** has broken out again at Bradford. In fining a youth and three children for this offence, Mr. G. R. Carter, Chairman of the Bench at Bradford City Court, pointed out that damaged lamps, especially in the suburbs, only made conditions more favourable for assault. The ratepayers will have to foot a bill of over £500 for repairs resulting from the wilful damage so far this year of 1,236 street gas lamps. Replacement is a difficult matter for the lighting authority in the City, which is responsible for 13,000 street lamps and is endeavouring to extend the lighting in accordance with the modified restrictions.

**The London Regional Joint Council** for Gas Staffs, at a meeting on Oct. 22, reached agreement on a salary grading scheme to cover professional, technical, and higher administrative grades. This agreement is the result of several months' negotiations and follows on the salary grading schemes which have already been concluded in respect of male and female clerical employees of the London gas undertakings. The new scheme, like the earlier schemes, is operative from Jan. 1, 1948, and with its completion, the salaries of the vast majority of gas staff employees throughout the London region will now be governed by regional salary scales.

**The Services of the Liverpool Gas Development Centre,** which has a team of highly trained demonstrators, are available to all the 38 gas undertakings in West Lancashire, South Cheshire, and North Wales. The successful fruit bottling demonstrations and competitions held during the summer have now been succeeded by various demonstrations of special type, and a series of photographs collected by the Centre's Public Relations Officer, taken in the demonstration theatres at Warrington, Barrow-in-Furness, Liverpool, Preston, St. Helens, and elsewhere, gives an indication of the enthusiasm with which the demonstrations have been welcomed by the public.

**Belfast Gas Department** is praised in a letter to *Ireland's Saturday Night*. A resident of Belfast writes: " One morning this week a coin got jammed in the gas meter and put it out of action. It was an exasperating accident just before the breakfast hour. I went at once to the kiosk at the end of the street and told the Gas Department of my plight. Imagine my surprise to find, as soon as I got back home, a man waiting to deal with my complaint. Needless to say, he soon put matters right. Surely such an instance of expeditious service is worthy of commendation. I salute the Department." Most people, comments the paper, only ventilate grouses. It is nice to learn of something different.

**Coventry Housewives** showed a lively interest in the Food Safety Exhibition at the Central Showrooms of the Gas Department, which was opened by the Mayor of Coventry (Councillor W. H. Malcolm) and remained open for 16 days. A talk on everyday aspects of safe handling of food was given at the opening by Sir William Savage, the noted health authority. The exhibition has been organized jointly by the Coventry Public Health and Gas Departments, with the active support of the Coventry Branch of the National Council of Women. Apart from the emphasis it puts on the need for the careful handling of food to prevent food poisoning, the growth of which has been considerable since the beginning of the war, this exhibition shows how gas appliances can provide hygienic conditions. Cookery demonstrations by the Gas Department demonstrate the part which gas can play by providing the means of obtaining instant hot water, refrigeration, and cooking. Intended primarily to promote greater food safety in the home, the exhibition is of no less importance in promoting the same object in large catering concerns.

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## SUPPLIED EXCESS COKE

Reminding Walsall magistrates of the severe winter of two years ago, Mr. J. F. Bourke (barrister) on Oct. 29 claimed that excessive supplies of coke furnished by the Walsall Corporation during that " terrible emergency " were to meet cases of " very real need and in some cases of tragic hardship."

Two summonses involving the unlawful supply of 112 tons of coke between Nov. 1, 1946, and April 30, 1947, originally came before the court on Feb. 6, when the magistrates upheld a legal submission from Mr. Bourke, and dismissed them. The Ministry of Fuel and Power appealed against the decision and the High Court overruled Mr. Bourke's contention that the summonses were " out of time " relating as they did to offences more than six months before they were issued. In mitigation of the offences, Mr. Bourke stated that the Corporation's officers and particularly Mr. A. Allen, General Manager and Chief Engineer of the Gas Department, were in a state of " great distress and grave anxiety to do their best for the public during the emergency."

The presiding magistrate, Mr. R. E. Ledbury, said the bench were disturbed by the large quantities of coke involved in some of the cases. The Corporation would be fined a total of £30 with £10 costs.

# CHAIRMEN OF AREA GAS BOARDS

THE Minister of Fuel and Power informed Parliament on Friday that he proposes to appoint the following as Chairmen of the Area Gas Boards to be set up under the Gas Act, 1948.

**Scottish Gas Board.**—Sir ANDREW CLOW (57), Governor of Assam, 1942-47. Chairman of Committee on Domestic Peak Load.

**Northern Gas Board.**—Mr. E. CROWTHER (51), General Manager and Chief Engineer, Newcastle-upon-Tyne & Gateshead Gas Company.

**North-Western Gas Board.**—Colonel W. M. CARR (62), Chairman, United Kingdom Gas Corporation.

**North-Eastern Gas Board.**—Mr. ROGER EDWARDS (43), Director, Co-operative Wholesale Society. Chairman of Council of Industrial Design.

**East Midlands Gas Board.**—Mr. HENRY F. H. JONES (42), Director of South Metropolitan and South Suburban Gas Companies.

**West Midlands Gas Board.**—Mr. G. LE B. DIAMOND, Director, Engineer, and General Manager, Rochester, Chatham, and Gillingham Gas Company. Regional Controller, South-Eastern Region, Ministry of Fuel and Power.

**Wales Gas Board.**—Mr. MERVYN JONES (38), Town Clerk, Newport.

**Eastern Gas Board.**—Sir JOHN STEPHENSON (44), General Secretary, the Plumbing Trades Union. Labour Adviser to the President of the Board of Trade.

**North Thames Gas Board.**—Mr. M. MILNE-WATSON (38), Governor, Gas Light and Coke Company.

**South-Eastern Gas Board.**—Mr. W. K. HUTCHISON (44), Managing Director, Gas Light & Coke Company.

**Southern Gas Board.**—Mr. O. GUARD, Managing Director, Associated Coal and Wharf Co., Ltd., Director, United Drapery Stores.

**South-Western Gas Board.**—Mr. C. H. CHESTER (47), Director, General Manager and Secretary, of the Swindon United Gas Company.

Mr. Gaitskell, having announced the names, informed the House that the salary for the post of Chairman of Area Gas Boards had been fixed at £4,500 per annum. In two cases in which officers of gas undertakings have existing contracts at a higher salary they will receive a personal addition to the salary of £4,500. Chairmen will be entitled to an allowance of up to £500 per annum for expenses.

The Chairmen of the 12 Area Boards will, with the Chairman and Deputy Chairman already appointed, constitute the Gas Council. The Chairman of the Council is Mr. A. E. Sylvester, formerly Governor of the Gas Light and Coke Company, whose salary has been fixed at £6,000 a year, and the Deputy Chairman is Colonel H. C. Smith, Chairman of the present British Gas Council, who will receive a salary of £5,000.

## Personal Notes

Of the 12 names, seven are very well known in the gas industry; the other five are newcomers. Of the seven already established in the industry, all are Directors; two are the reigning President and Senior Vice-President, respectively, of the Institution of Gas Engineers, one is the Chairman of the senior gas holding company, and all have had ripe experience in handling integration problems. Following are brief biographical notes arranged, for convenience, in the same order as the tabulated list of appointments above.

**Sir Andrew Gourlay Clow,** K.S.C.I., C.I.E., M.A. (Scottish Gas Board), is a former Governor of Assam and as Chairman of the Committee on Domestic Peak Load was responsible for introducing the principle of a higher charge for domestic electricity during the peak period of the year. Born in Aberdeen in 1890, Sir Andrew was educated at Cambridge and in 1914 joined the Indian Civil Service. From 1920-23 he was Controller of the Indian Government's Labour Bureau, and represented that Government as adviser or delegate at the International Labour Conferences held at Geneva between 1921 and 1934. In 1924 he became Deputy Secretary to the Governor of India, subsequent appointments being as Joint Secretary (Industries and Labour), 1931-35; Secretary to Government of India, 1936-38; Communications Member of Government for India, 1939-42; Member of Indian Legislative Assembly, 1923, 1925-27, 1932-36; Member of Indian Council of State, 1928-29, 1932-33 and 1936-38. Sir Andrew, who was Governor of Assam from 1942-47, is the author of three books on industry and labour laws in India.

**Mr. E. Crowther** (Northern Gas Board), whose 30 years' service to the gas industry was recognized a few months ago by his election as President of the Institution of Gas Engineers, was born at Wallasey in 1897, the son of a gas engineer, and entered the industry in 1919 as Technical Assistant to the Aldershot Gas Company. In the following year he became Assistant in the Wallasey Gas and Water Department. He took his degree of Master of Engineering at Liverpool University, and became an Associate Member of the Institution of Civil Engineers in 1921. From 1923 to 1927 Mr. Crowther was Chief Assistant to the Stoke-on-Trent Corporation Gas Department, and in 1927 he was appointed Deputy Engineer at Bradford. Four years later he succeeded to the position of Engineer and Manager of the Bradford Gas Department, and in 1934 he was appointed Engineer and Manager of the Salford Gas Department, a position he occupied until he was appointed Chief Engineer and Manager of the United Kingdom Gas Corporation early in 1937. He went to the Newcastle-upon-Tyne and Gateshead Gas Company in 1938 as Chief Engineer and Assistant General Manager, became General Manager two years later, and subsequently joined the Board. He first joined the Council of the Institution of Gas Engineers about 12 years ago, and has served for some years on the Board of Examiners. He is also a Past President of the North of England Association of Gas Managers.

**Colonel W. Moncrieff Carr,** O.B.E., T.D. (North-Western Gas Board), was born in 1886 and was educated at Manchester University, Owens College, where he took the Engineering Certificate. He was afterwards pupil under the late Lieut.-Colonel J. Mitchell Moncrieff, C.B.E., Civil Engineer, of Newcastle, and was engaged in bridge and dock construction work. In 1907 he joined his father, the late Mr. Isaac Carr, in his gas and water consulting engineering practice and assisted in the design and construction of a number of new gas-works. In 1911 Colonel Carr, while continuing his consulting work, became Engineer and Manager of the Ormskirk District Gas Company, and in 1922 he was appointed Engineer and General Manager of the Stretford and District Gas Board. After 13 years' successful work at Stretford he was one of the founders of the United Kingdom Gas Corporation, one of the first and the largest of the gas holding companies. In the same year—1935—he was elected President of the Institution of Gas Engineers. He remained at Stretford until the end of 1936, when he resigned in order to devote his whole attention to the United Kingdom Gas Corporation, of which he had become Managing Director. He continued in that office until the death of Mr. R. B. Ottley, whom he succeeded as Chairman of the Corporation. Since the early days of the first world war Colonel Carr has taken an active part in the work of the Territorial Army. He was appointed Honorary Colonel of the 55th (West Lancashire) Divisional Engineers, Territorial Army, in 1934. He received the rank of Brevet-Colonel in 1930, was awarded the Territorial Decoration in 1929, and the O.B.E. (Military Division) in the 1936 Birthday Honours.

**Dr. Roger S. Edwards** (North-Eastern Gas Board) is a Director of the Co-operative Wholesale Society and Chairman of the Council of Industrial Design. Dr. Edwards, whose home is at Enfield, Middlesex, was a demonstrator in physics at the Imperial College of Science and Technology from 1925-28, and physicist to the British Boot, Shoe, and Allied Trades' Research Association, from 1929-39. He has served on a number of Committees of the Board of Trade, notably the Export Guarantee Advisory Council, of which he has been a member since 1947, and the Industrial Export Council, on which he served from 1942-45. He was a member of the Bailieu Committee on Industrial Management from 1945-46. Joining the Council of Industrial Design in 1944, he was appointed Chairman in 1947. He has been a Director of the Co-operative Wholesale Society since 1939.

**Mr. Henry F. H. Jones,** M.B.E., J.P. (East Midlands Gas Board), was born in London in 1906, the only son of Mr. Frank Harding Jones, and a member of a family associated with the gas industry for generations. He was educated at Harrow and Pembroke College, Cambridge, and was articled to Mr. (now Sir) George Evetts, to whom he was Assistant for a number of years. He is a Member of the Institution of Gas Engineers and an Associate Member of the Institution of Civil Engineers, and is a Director of several gas companies. He is Deputy Chairman of the Wandsworth and District Gas Company and of the Watford and St. Albans Gas Company (of both of which his father is Chairman), and a Director of the South Metropolitan, South Suburban and Commercial Gas Companies (of which his father is Chairman), and of the United Kingdom Gas Corporation and the British Gas Light Company. During the war he served with the Essex Regiment and on the Staff, and saw service in France, Belgium, Burma, and India, returning to civil life in 1945 after having attained the rank of Brigadier. He is married and has four children.

**Mr. G. le B. Diamond,** (West Midlands Gas Board), Director, Engineer, and General Manager of the Rochester, Chatham, and Gillingham Gas Company, has spent almost the whole of his gas

career in the South-East. At the beginning of 1941 he relinquished his position as General Manager of the Dover Gas Company on appointment as General Manager at Rochester. He was also at that time Engineer and General Manager of the Folkestone Gas Company and the New Romney and Lydd Gas Companies, and had been associated with the Dover undertaking for several years, having been General Manager for three years. In 1942 he was appointed Deputy Controller, Ministry of Fuel and Power, for the South-Eastern Region, and from the inception of the Regional Gas Engineering Advisory Boards he was Regional Gas Engineering Adviser for the same area. In 1945, on the retirement of Sir John Dalton from the office of Regional Controller for London and the South-East, Mr. Diamond became Regional Controller for the South-Eastern Region. He joined the Institution of Gas Engineers as Associate Member in 1922 and became a Member in 1928. He was President of the Southern Association of Gas Engineers and Managers in 1942, and although war circumstances had prevented the holding of meetings in the first three years of the war the Association reassembled under his Presidency, and his Presidential Address was one of the most memorable of the war-time discourses.

**Mr. T. Mervyn Jones** (Wales Gas Board), Town Clerk of Newport, is 38 years of age. He was educated at the village elementary school at Llandinam, Montgomeryshire, and finally went to Cambridge University, being admitted a solicitor in 1936. Son of the late Rev. Dr. Richard Jones and Mrs. Jones, J.P., of Llandinam, he won a scholarship from the village school into Newtown County School from where he went to the University College of Wales. He obtained first class honours in his LL.B. degree in 1931 and was admitted to Trinity Hall, Cambridge where he obtained a first class in his law tripos and took his Cambridge LL.B. degree. He was a member of the Boat Club and represented his College on the committee of the Cambridge Union. In August, 1936, he was appointed temporary assistant solicitor on the staff of the Newport Town Clerk and three years later became Deputy Town Clerk. During the recent war he was Deputy Controller and later Controller of Civil Defence in Newport. In 1944, with the Clerk of the Monmouthshire County Council, he was joint organizer of the Monmouthshire Industrial Exhibition and since that date, on behalf of the Newport Corporation, he has personally dealt with all industrialists establishing new works in the area. He was appointed Town Clerk in 1946 and in 1947 he presented to the Iron and Steel Board the Newport case for the retention of the cold reduction plant at Lysaghts, the local steel firm, for which he received great praise. He was responsible for the preparatory legal work for the new Uskmouth generating station and was asked by the British Electricity Authority to continue as legal adviser to the scheme after they took over responsibility. Mr. Mervyn Jones is married, with two children.

**Sir John Walker Stephenson,** C.B.E., J.P. (Eastern Gas Board), General Secretary of the Plumbing Trades Union, lives at Clapham and was knighted early this year. He has been General Secretary to the Plumbing Trades Union, known until 1946 as the Plumbers', Glaziers', and Domestic Engineers' Union, since 1929. He is Labour Adviser to the President of the Board of Trade, a post he has held since 1945, previously holding a similar post in the Ministry of Aircraft Production. Sir John is a Director of British South American Airways and serves on many Government committees. He has been Chairman of the National Federation of Building Trades Operatives for 10 years, and was for a time President of the Confederation of Shipbuilding Engineering Unions of which he has been a member of the executive since it was formed in the early 1930s. Chairman of the Shipbuilding Group Council, he serves on committees under the auspices of the Admiralty, the Ministry of Works, and other departments.

**Mr. Michael Milne-Watson** (North Thames Gas Board), who took over the duties of Governor of the Gas Light and Coke Company just under two years ago on the retirement of Mr. A. E. Sylvester (now Chairman of the Gas Council), is the son of the late Sir David Milne-Watson, who was probably the best-known gas administrator throughout the history of the industry. At the early age of 36 he became the youngest Governor in the 134 years' history of the Company, thus stepping into the position which his father had held with conspicuous ability from 1918 to 1944. Educated at Eton and Balliol, Mr. Milne-Watson spent a short period in the office of a well-known firm of chartered accountants in the City before entering the service of the Gas Light and Coke Company in 1933. He was appointed Assistant to the General Manager in 1935 and two years later he became Assistant to the Controller of Gas Sales. In 1940 he was appointed Manager of the London Gas Centre, an office in which his duties included the organization and control of gas supply to the whole of Greater London. While Manager of the Centre he was appointed in turn Assistant Comptroller, then Assistant General Manager, and later, in 1942, Commercial Manager. In 1943 he volunteered and was accepted for service in the Royal Navy, from which he was released in October, 1945, when he was appointed Joint Managing Director.

**Mr. W. K. Hutchison,** B.A., B.Sc., M.I.Chem.E. (South-Eastern Gas Board), was educated at the Edinburgh Academy and at Corpus Christi College, Oxford. He joined the staff of the Gas Light and Coke Company in 1926 as a research chemist. In 1940 he was seconded to the Air Ministry as Assistant Director of Hydrogen Production, and in 1942 he succeeded Viscount Ridley as Director. In the following year Mr. Hutchison was appointed Director of Compressed Gases, a position that involved complete responsibility for all the hydrogen used in the Balloon Barrage, and for all the oxygen used in high altitude flying by the British and American Air Forces. In December, 1945, he took up the appointment of Controller of By-Products in the Gas Light and Coke Company and was responsible for all matters concerning coke and other by-products from gas manufacture. He was appointed to the Court of Directors of the Gas Light and Coke Company in January of last year, and immediately became a Managing Director. He was awarded the H. E. Jones Gold Medal of the Institution of Gas Engineers for his paper on the removal of sulphur compounds by oil washing, and also the Moulton Medal of the Institution of Chemical Engineers for his paper on water cooling in 1942.

**Mr. Owen Radclyffe Guard** (Southern Gas Board) lives at Emsworth, Hampshire, and is best known as Joint Managing Director of the Associated Coal and Wharf Company, Ltd. His interests range over a number of working subsidiaries of this company and he is also a Director of United Drapery Stores, Ltd. Vice-Chairman of Arding and Hobbs, Ltd., the departmental stores of Clapham Junction, he is also Chairman of Fraser and White, Ltd., and a Director of J. R. Wood and Company, Ltd. In Hampshire he is known as a keen cricketer and for his herd of Jersey cattle.

**Mr. C. H. Chester,** O.B.E. (South-Western Gas Board), Senior Vice-President of the Institution of Gas Engineers, a Yorkshireman by birth, has been in charge of the Swindon undertaking for the past 16 years and during that time he has been responsible for carrying out one of the most interesting integration schemes in the country. He received his early education at Wakefield Academy High School, followed by a comprehensive training as a gas engineer in all departments—works, distribution, drawing office, and laboratory, finishing with management experience in the general office, under Mr. H. Townsend, then Managing Director of the Wakefield Gaslight Company. From 1919 to 1922 he was Engineer to Tully Gas Plants, Ltd., in charge of the erection of gas plants in various parts of the British Isles, and in 1922 he was appointed Assistant Engineer, Manager, and Secretary of the South Bank and Normanby Gaslight and Coke Company. He left there in 1924, when he became associated with the Wakefield Gaslight Company as Deputy Engineer and Manager. At the age of 31 he became General Manager and Secretary of the Swindon United Gas Company in succession to Mr. E. George Vince. Later he became a Director of the Company, and also a Director of the Swindon and District Gas Corporation which, since 1935, has completed the consolidation of a number of undertakings in the neighbourhood of the parent Company. During the war Mr. Chester was Regional Gas Engineering Adviser for the South-Western Region, and he received the O.B.E. in the 1943 Birthday Honours.

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## BRITAIN'S FIRST COMMUNAL LAUNDRY

*One of many communal laundrettes was recently opened at Hastings and enables the housewife to have her washing done at extremely reasonable charges while she is shopping elsewhere. This experiment has proved an enormous success and, as will be seen from the photograph, gas and Ascot water heaters play a predominant part.*

## MODERN HOSPITAL KITCHEN

The King Edward VII Hospital for Officers, Beaumont Street, W.1 was opened by Queen Mary on Oct. 15.

This photograph shows the new kitchen which has a good gas installation, consisting of three cookers, a "Rotopan" steamer, an "Aquafont" water heater, and two hot closets.

*In the kitchens of the King Edward VII Hospital for Officers, London.*

In addition, there is one 550 Electrolux gas refrigerator for milk storage, and there are four L.M.150 refrigerators for storing officers' tit-bits. The nurses' home next door is fitted with several "Silent Beam" gas fires and boiling rings for making tea.

## "THE NATION'S WEALTH"

The appearance of a successor to Publicity Parade in the entrance hall of Gas Industry House was announced last week. "The Nation's Wealth" is of a more general character, seeking to tell the story of coal in relation to the gas industry primarily for the benefit of those outside the industry.

*A view of the industrial and commercial sections of "The Nation's Wealth" exhibition.*

The long and irregular shape of the hall has again been so camouflaged that the visitor's interest is held and the story is built up logically by a fascinating series of separate and yet related exhibits. Considerable use is made of models, some of them loaned to the British Gas Council, and others made specially for the exhibition. Every aspect of gas manufacture is dealt with by means of a large and finely drawn wall chart which includes all plant normally encountered on gas-works. Although the layman, particularly the casual visitor, may find this a little complex, and the gas engineer's eye may be drawn to one or two curious points of design, the diagram is of considerable interest and with proper explanation should intrigue school parties.

Distribution introduces the first models, a model of a station governor and a panorama mainlaying scene showing the various types of excavating equipment. Domestic gas usage naturally introduces the cooker and the fire, together with the familiar but none the less effective model kitchen. Coke for domestic use is demonstrated by a coke grate (both this and the gas fire are in operation) and a diagram of a domestic hot water system, while industrial and commercial uses are illustrated by photographs. Explanation is given of the dye-stuffs obtained from coal tar. The various chemical derivatives are shown by means of a wall chart, with the assistance of the relevant test tubes, while below large silver globes emit materials with involved colour schemes. Samples of felt, silk, and other materials are included, while a pin secures to the wall a draping of nylon.

Tar is also the theme of the next exhibit. Products in this display include synthetic medicines, wood preservatives, perfumery, paints, rubber accelerators, fabrics, disinfectants, food flavourings, and vitamins, &c. Plastics form a natural follow-up and radio cabinets, ornaments, motor car dashboards, and various small fittings grace the display.

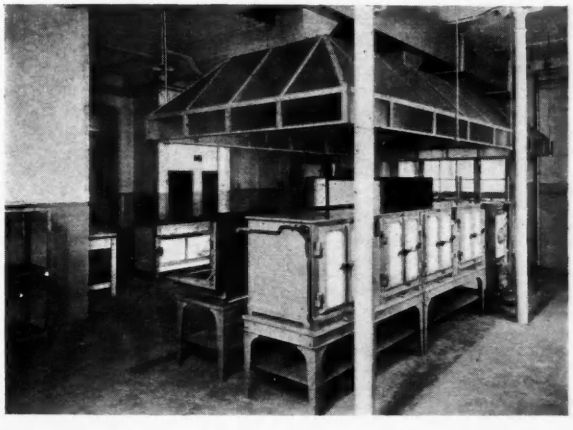
The agriculture section concentrates on sulphate of ammonia—a little surprising in view of the story that can be told of grain drying and other modern applications of gas on the farm, which take a secondary place in this display. Road tar re-introduces models with demonstrations in miniature of surface dressings.

Most effective is the industrial exhibit which embraces paint manufacture, paint drying (another fine model of an infra-red plant) the manufacture of lead soldiers, motor car parts, and pottery (including a model gas-fired infra-red oven drying glazed-dipped holloware), and steel cutting.

The commercial section shows the utilization of gas in civic building factory, hotel, school, hospital, store, cafeteria, and bakery. Overhead heating and large scale water heating are included. The exhibition refers to smoke pollution with the aid of a G.L.C. window display borrowed for the purpose. "The Nation's Wealth" is likely to enjoy a long and successful run.

## AN ALL-GAS CAFETERIA

On Oct. 11, Dr. J. L. Mountford, the Vice-Chancellor of Liverpool University, declared open a new cafeteria to provide a continuous meal service for 800 students. The kitchen and servery are housed in a 90-year old Swedenborgian Chapel, which was purchased by the University and re-designed by Mr. A. T.



Westrope, Clerk to the Fabric. In spite of the disadvantage of using an old building, the arrangements for cooking and service are almost perfect, and the equipment, supplied through the Liverpool Gas Company by Radiation, Ltd., is complete and up to date. Supporting Dr. Mountford were representatives of the University Council, the Guild of Undergraduates, the Professional Staff, the Liverpool City Council, the Regional Hospital Board, and the City Architect. The suppliers were represented by Messrs. J. G. O. Drake and Stanley Hopkinson, of the Liverpool Gas Company, and Messrs. J. R. Walker and F. W. Wort, of Radiation, Ltd.

**Arranged by Mr. C. H. Bamber,** Engineer and Manager of the Rochdale Gas Department, with the help of the British Gas Council, a joint gathering of the Rochdale and Castleton Literary and scientific societies and the Rochdale branch of the Workers' Educational Association saw at the gas-works canteen recently the Gaumont-British film on the history and development of atomic energy.

# A ROYAL OCCASION AT BECKTON

## INAUGURATION OF NEW SCHEMES BY H.R.H. THE DUCHESS OF KENT

A "GAS JOURNAL" Photograph

*The Duchess of Kent, on arrival at Beckton, being met by the Governor of the Gas Light and Coke Company, Mr. Michael Milne-Watson.*

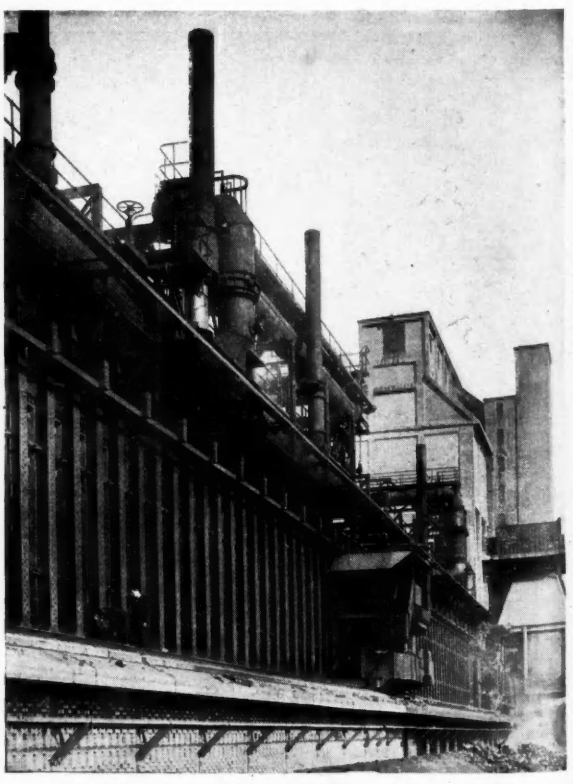
THURSDAY, Nov. 4, marked another great event in the annals of the Gas Light and Coke Company, the occasion being a visit to the Beckton Works by the Duchess of Kent to inaugurate the third battery of coke ovens and to lay the foundation stone of a new welfare centre at the Products Works. The opening of the coke ovens was a landmark in the Company's effort to make good the damage and lost time of the war years. The installation of W.-D. Koppers ovens is part only of an expansion scheme which will cost at least £8 mill., and will take several years to complete, but its opening is a token of progress under difficulties. Plans provide for the opening of a fourth battery of coke ovens in 1950, and later on a fifth battery. The five together will carbonize 3,000 tons of coal a day, giving a daily output of 37 mill. cu.ft of gas; and in addition, work has begun on a carburetted water gas plant capable of making 18 mill. cu.ft. of gas a day. A second coke handling and storage plant is to be built to help deal with the coke output. The original works at Beckton, described at the time as "a scheme of colossal proportions," used 1,000 tons of coal a day. Now two batteries of coke ovens alone carbonize 1,200 tons a day. Each of the 30 ovens in the new battery has a capacity of 17½ tons of coal, and each charge is carbonized for 19 hours. The coal bunker between the batteries holds 3,900 tons.

The Gas Light and Coke Company has 12 large works, but Beckton makes nearly half of all the gas sold to its million-and-a-half consumers. It provides work for 3,500 men—about one-fifth of the Company's employees. The huge area of Beckton—280 acres—has made efficient transport of materials vital, but full advantage has been taken of modern methods, and several miles of conveyor belting supplement 77 miles of works railways and coal handling plants on the wharves. A coal handling plant on No. 1 Pier was opened by Their Majesties King George V and Queen Mary in 1926, and the first two batteries of coke ovens were opened by His Royal Highness the Prince of Wales in 1932. Since then, coke grading and storage plant, and benzole plant have been added.

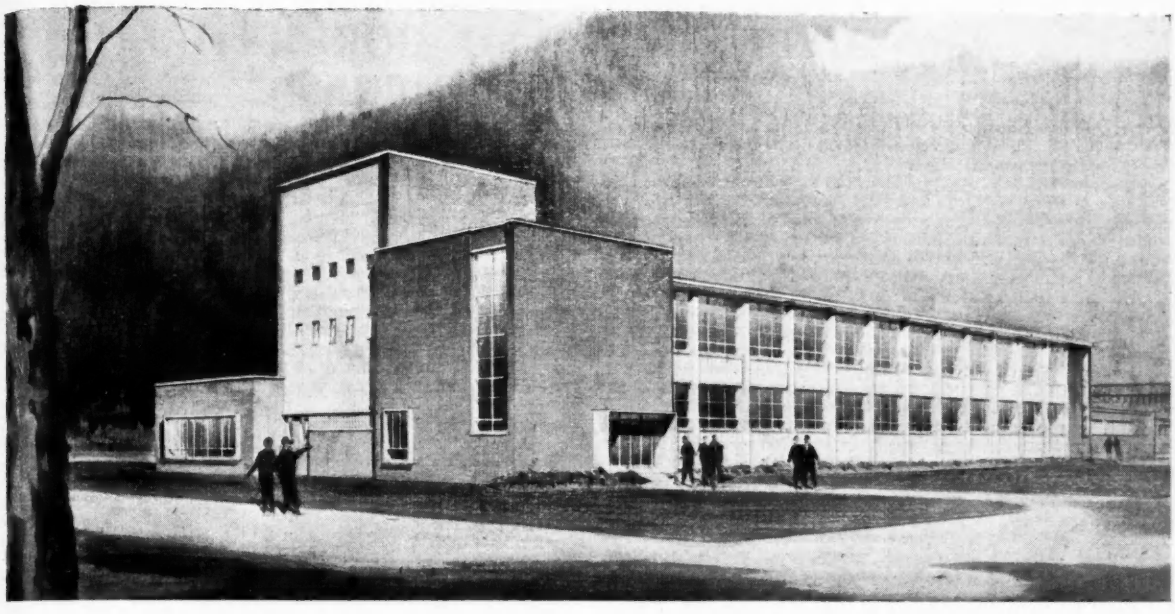
The Company has always been a pioneer in industrial welfare schemes, and it is fitting that a new-type £200,000 welfare centre should head reconstruction plans at the Products Works. This building, which is to serve as a model for the Company's other works, has been given distinction by the visit of the Duchess of Kent to lay the foundation stone. There are 1,000 employees at the Products Works; and the new two-floor welfare centre makes use of an idea developed for miners. Men whose jobs are dirty will be able to arrive in their best clothes, change into working garb, and bath and change again before leaving for home. For men on shift work, special lobbies are to be built near the job so that they can have similar facilities on the spot. Each man will have two lockers—one for his outdoor clothes and the other for working clothes—in large rooms separated by baths and showers. Warm air will be fed into the lockers so that wet clothes can be dried. Other features of this model centre include full dining-room and canteen services, a billiards and games room, and facilities for holding committee meetings. Much thought has been given to the internal finish of the building, particularly to the floors in the bath houses and locker rooms. Exhaust steam from the works will be available for the combined heating and ventilating system. Future plans also include a new medical block which will be staffed with industrial nurses. A similar type of welfare centre is being constructed at Bromley Gas-Works and a number of plans are in hand for improved welfare facilities at other works.

On arrival at the Beckton Works the Duchess of Kent was met by the Governor of the Company, Mr. Michael Milne-Watson. The first ceremony was the laying of the foundation stone for the welfare centre. Here Mr. Milne-Watson said: "Our forefathers planned well and were always ahead of their times in welfare schemes, but now progress has outstripped them and it becomes necessary to rebuild and reshape these works, a task which will take many years to complete. It is fitting that this enterprise should start with the building of a new welfare centre which is to serve as a model for other works throughout the Company. For in looking after the welfare of its many thousand employees, in health and sickness, the Gas Light and Coke Company has always been in the forefront—the Company's first sickness fund dates back as far as 1830—and has reaped a reward in the tradition which has sent generations of the same families into its service. But here again the spirit of the times suggests advances in providing for the work-day needs of those in our employment, and these will be met in the consciousness that only the best is good enough for those who serve the community so faithfully. Accordingly this centre will provide not only good meals, but a well-planned system of lockers and baths so that those whose work is grimy can arrive in clean clothes, change into working garb, and at the end of the day leave their soiled clothes behind, returning home bathed and refreshed and ready for the enjoyment of their leisure. There will also be recreation rooms in the centre, to provide a meeting ground for employees off duty, and so help to maintain that team spirit which is so vital in an industry whose first consideration is service to the public. It is our hope that this building, costing £200,000 and embodying the latest devices for service and comfort, will be worthy of its Royal patronage. To Your Royal Highness we express our sincere gratitude that you have come to honour us with your presence."

Following the laying of the foundation stone the Duchess proceeded to the coke oven site, where, prior to the opening of the coke oven battery by the Duchess, Mr. Milne-Watson explained that after the war the consumption of gas rapidly returned to that of pre-war days and had since risen by an amount which would be nearly sufficient to supply the City of Manchester, while the contribution of the battery



*A close-up of the new coke oven battery at Beckton.*



*The architect's impression of the new welfare centre at the Products Works, Beckton.*

of ovens was equal to the annual requirement of gas for the City of Bath. That was why the putting of these ovens into service had assumed a special significance. What the new battery meant in terms of relief to existing plant could be realized from the fact that the daily output was enough to satisfy the domestic requirements of about 100,000 homes.

Mr. Milne-Watson continued: " Work is to begin soon on another battery of these ovens and when the scheme is completed in a few years' time, five batteries will be working together here. This project, and other expansion plans at the works, will take some years, but we feel that the success of our engineers and the contractors in coping so well with the immediate post-war difficulties gives ample reason to expect that these plans will be fulfilled to schedule. It is reassuring to know that the plans, although conceived under private enterprise, will not be affected by nationalization. As one of the greatest public utilities of its kind in the world this Company has always belonged in the larger sense to the public and was built up to its present size only because those who conducted its affairs over the years kept as their objective service to the community. We know that above all other considerations the thousands of skilled technicians and workers here, backed by a huge service organization which reaches into every home and establishment where gas is used, will continue to give their vital service to the Empire Capital with the same zeal displayed by their forefathers."

A "GAS JOURNAL" Photograph

*The Duchess of Kent opens the new battery of coke ovens at Beckton. As she depresses a lever an oven is discharged (as shown in the picture on the right).*

# STEEL, GAS, AND COKE

## AN INEVITABLE RELATIONSHIP

THE Annual Dinner of the Coke Oven Managers' Association was held at the Waldorf Hotel on Oct. 29—the President, Mr. G. M. Nave, in the chair.

Sir **Andrew Duncan**, P.C., G.B.E., M.P. (Chairman, Executive Committee of the British Iron and Steel Federation), said he had very great pleasure in proposing the toast of "The Coke Oven Managers' Association," for the steel industry—if he might still be permitted to speak for the steel industry—was very closely related as coke was one of their principal raw materials; therefore the question of quality and price were matters of serious moment to them. On behalf of his industry it was his duty to offer to the coke industry the most cordial thanks for the contribution it had made during the past year in enabling the steel industry to put up such a fine performance. Much as he admired the efforts of Mr. O'Connor, he would not like to say that they had had no troubles with the quality of coke. He knew the subject was engaging their close attention, and he believed in the end the problems would be solved. The production of steel this year was only a foretaste of what might be expected to come. They had their plans laid for some time to increase the productive capacity of the industry to 17½ mill. or even to 18 mill. tons by the end of 1950. That was agreed officially by Government representatives as being the figure towards which they should aim. It was clear that for the output they would ultimately have to increase pig iron production to something like 30 mill. tons per annum, and so they would be calling on the coke industry for something like 2½ mill. or more increase on what they were now providing. During the past year they had been greatly helped by the tremendous success of their scrap drive, and he thanked the coke oven industry for their help. He asked those responsible to contribute now all the redundant plant they might have about the coke oven establishments. The appeal was of tremendous importance to the steel industry. The long-term solution of this production difficulty must depend upon blast furnace capacity and coke oven capacity. They had before them, therefore, an opportunity, progressively from now, on of making a contribution to the output of the steel industry in this country on a scale which, considering the time in front of them, was even more urgent than anything they had faced in the past.

There was no need to await the nationalization of iron and steel in order to find unity in planning. They in the iron and steel industry had already declared their plans. If Lord Hyndley could assure him that night that he was ready to take on co-operative planning for years ahead, business would be done. The coke oven industry had before it an extraordinarily bright future, not only in relation to its steel interests but in relation also to industrial interests and a great many others in which they were interested.

The **President** (Mr. G. M. Nave), after paying a high tribute to Sir Andrew Duncan's record of public service, said one heard to-day incessant exhortations to labour to produce more, and the placating of labour by concessions of time and money; but very seldom was appreciation of management expressed in equivalent terms. It was therefore pleasing to hear, from one so eminently able to judge, words of encouragement and an appreciation of their efforts; and in thanking him for them he could assure him—and also Lord Hyndley—that coking technicians had always striven to promote efficiency and expansion of the industry, to utilize to the full their chemical by-products, improve the conditions of their workmen, and attain higher outputs per unit of plant. He was confident that they had within their ranks men competent to handle any and every aspect of carbonization if given the opportunity.

Referring to the coke oven workers, he doubted if there was an industry which had had so few disputes and that settled its disputes so amicably. They were proud of the spirit and good feeling that existed between staffs and workmen.

Sir Andrew Duncan had rightly pointed out that the iron and steel makers could not make good iron without good coke, and good coal was the starting point. The day had gone by, the President said, when coking coals were simply the reject or unsaleable part of the output of the collieries. During the two world wars the names of the elements nickel, tungsten, molybdenum, &c., were spoken of with bated breath as the rare alloys upon which the course of the wars depended. The next generation might class coking coals as such essential alloys—not, he hoped, during the next war, but in the continued peace to which they were looking. Carbon was an essential part of the atomic pile. Who knew but what we might be making in the not too distant future "atomic coke nuts"? He had heard them called worse. (Laughter.)

### Price Structure for Coal

Speaking of what he described as the good-natured feud between the blast furnace manager and the coke oven manager, he said the former demanded uniformity of quality and when referring to ash content he was more than ever emphatic. The President looked forward to the day when coal was sold and supplied to specification as regarded coking quality, ash content, and moisture content. Until then adjustments in the price structures could at least be made. That had not gone unnoticed by the National Coal Board, and an attempt was being made to formulate a new price structure for coking coals and other coals. It was the first time to his knowledge that the technical men had been allowed to use their knowledge to evaluate coals on a scientific basis and on a large scale. He looked forward to a much brighter future for the coke oven manager of to-morrow. All members of the Association should give enthusiastically and energetically in an all-out collective effort, to consider always the national interest, and to let their watchword be "Efficiency and Expansion."

Mr. **A. H. Winspear**, proposing the toast of "Our Guests," spoke in appreciation of Sir Andrew Duncan's inspiring leadership and drive at a time when it was so urgently needed. Neither were they unmindful of the service being rendered to-day in the magnificent results being achieved by the industry of which Sir Andrew was an administrator and of which many of them were proud to be a part. If only the fine example thus set were to be unanimously followed by fellow-citizens all over the land, the days of austerity would soon be behind them. Welcoming Lord Hyndley, he said he felt sure that he and his Board were fully alive to the urgent necessities of the carbonizing plants.

Among the guests they had several distinguished representatives of the gas industry. Many of his colleagues would, he felt sure, wish to greet them from the green pastures of nationalization, so soon to be joined in those pleasant lands. Sir Ernest Smith, Chairman of the Industrial Coal Consumers' Council; and Colonel H. C. Smith, Vice-Chairman of the new Gas Council, were both well versed in all branches of the gas industry. The part their own carbonizing plants had fulfilled in the past, and the part they would be called upon to play in the re-organization and future planning were fully appreciated; and he could assure those gentlemen that the goodwill of their Association would go with them in the many and varied tasks that lay ahead. The professional bodies of the gas industry were well represented by Mr. E. Crowther, President of the Institution of Gas Engineers. They in the coke oven industry had many interests and ideals in common with the gas industry, though—be it said—they agreed to differ as to the value of at least one of their products. He had no doubt that Mr. Crowther would at some time give them the benefit of his views on the subject. Mr. Crowther was General Manager of the Newcastle and Gateshead Gas Company; it was under the auspices of that Company that Mr. Nave began his technical career.

### A Spirit of Kinship

Mr. **E. Crowther** (President of the Institution of Gas Engineers), replying to the toast, said there was a spirit of kinship and affinity between the Coke Oven Managers' Association and the Institution of Gas Engineers. The President was a member in his own right and also an honorary member of the Institution. The company that night in some degree fell into three categories: those employed in privately-owned business; in State affairs; and those like himself in process of transition from one to the other. Being in the middle of the three he was privileged to speak for all the guests. Regarding educational work, he was pleased to see a similarity between the training proposed by the Association for the potential coke oven manager and what they endeavoured to give the potential gas engineer. He acknowledged on behalf of the gas industry the sterling job which members of the Association had been doing and continued to do for them. When the logic of affairs caused their ovens to be transferred to the ownership and control of the gas industry (laughter) they would welcome the managers to their ranks with the greatest cordiality.

Lord **Hyndley**, who was called upon by the President to address the gathering, said he believed that in the future even more than in the present there were great things ahead of "this tremendous by-product industry." He said quite frankly, as he said at Eastbourne only a week ago, that he was disappointed about the output of the country as far as coal was concerned. They were not going to get the 200 mill. tons as they should; he anticipated that the figure would be something in the neighbourhood of 197 mill. or it might be 198 mill. tons. It depended on what happened during the next few weeks With less than 200 mill. tons the country could not carry on and supply them with what was wanted and what he thought they must have and also supply something that was vital to the life of the country—namely, exports. The Coal Board was doing everything possible to improve conditions and get more machinery into the pits; a vast amount of machinery had been put in this year and a considerable amount was put in last year, and they would go on doing everything they could to improve the mines. On the coke oven side they had started to do certain things. They would modernize the coke ovens as rapidly as they could, build new ones, and do everything possible to develop that side, which he looked upon as one of the most important sides of the coal industry, as quickly as they could.

Mr. **Harold Boot** (Managing Director of the Consett Iron Company) paid a tribute to the President, and Mr. **E. M. Myers** (a Past-President) proposed the toast of "The President," to which the **President** made a brief reply.

# STRUCTURE OF THE INDUSTRY UNDER THE GAS ACT

FROM the full text of the Gas Act, with its 77 sections, four schedules and 112 pages of Parliamentary phraseology, coupled with an intimate study of the regulations so far issued under the Act, Mr. J. R. W. Alexander, General Manager of the British Gas Council, has compiled, for issue to member undertakings, a concise 24-page survey under the title of *The Structure of the Gas Industry under the Gas Act*, 1948. The notes, which outline the *future* structure of the industry, are uniform with *The Gas Industry—Facts and Figures*, published by the British Gas Council at the time the Gas Bill was introduced last January, describing the *present* industry.

The Act, it is pointed out, places the responsibility for conducting the gas industry of the future on the Gas Council and the Area Gas Boards. Having laid down certain principles it does not attempt precisely to describe how the Council or the Boards shall carry out their duties or to provide the organization for them. Neither does the Act precisely state in many matters where the responsibilities of the Gas Council end and those of the Area Boards begin, although it is clear that the decentralized and largely autonomous Boards are vested with full operational authority. While the Minister has an overriding authority and certain things cannot be done without his consent, the exercise of such authority and the giving of such consent has generally to be preceded by consultation with the Gas Council and sometimes with the Area Board or Boards concerned.

The Act leaves much concerning the future structure of the industry to be determined by the Council and the Boards. Until the Council and Boards have been appointed and made their decisions and the Minister has issued his regulations, it is impossible to describe in detail the structure of the industry as it will affect its consumers and members. The goodwill which has always animated the industry is certain to facilitate the solution of its problems, as it may encourage the hope that it will be possible to maintain in the future the consumer service provided in the past and by which the industry has been and will be judged.

The notes follow the same sequence as the Sections of the Act and interpret the main provisions in simpler terms. We quote only a selection of passages because, as we have said, the notes are, or will shortly be, available for all member undertakings.

## Duties of Gas Council and Area Boards

It will be the duty of the Gas Council to promote and assist the efficient exercise and performance by the Area Boards of their functions and to advise the Minister on the gas industry and matters relating thereto. The Gas Council has extensive responsibilities in connexion with the considerable financial affairs of the gas industry and obligations in regard to research, education, training and employment.

It will be the duty of each Area Gas Board to develop and maintain an efficient, co-ordinated and economical system of gas supply and coke production and to develop and maintain efficient methods of recovering products. The Boards are obliged to satisfy, so far as is economical, all reasonable demands for gas and to reduce, so far as practicable, the price of gas and coke and to avoid undue preference in their supply.

The Act enables, although it does not specifically so provide, each Area Board to constitute, within its area, such number of operational District Groups as appears desirable to secure effective management and consumer service in each District. Such Groups would probably be largely based upon the areas of existing nuclei undertakings and contiguous undertakings.

The Gas Council has the duty to settle, in consultation with the Minister, a general programme of research, the Council conducting such research or making arrangements with others to do so. An Area Board may conduct research work entrusted to them by the Council and, after consultation with the Council, may undertake research work affecting the functions of the Board not included in the general programme. Area Boards have the duty of making provisions for advancing the skill of their employees and for education and training.

## Territory of Area Boards

Before the vesting date the Minister by Order has to define by map—which must be available for inspection—the territory of each Area Board. After consultation with the Gas Council and giving any Area Board effected an opportunity of making representations, the Minister may by Order vary the Areas or form new Areas, subject to the approval of Parliament should the total number of Areas be increased or reduced, or a new Area be constituted.

Recently the Ministry of Fuel and Power has issued for examination a "working" list showing its provisional allocation of gas undertakings—numbering 1,056—to the Area Boards.

The Gas Council will comprise the twelve Chairmen of the Area Boards, *ex officio*, and a Chairman and Deputy Chairman, appointed by the Minister from among persons qualified as for membership of an Area Board—a total membership of fourteen. A member of the Commons House of Parliament must not be appointed a member of the Gas Council or an Area Board.

Each Area Board will be appointed by the Minister and will comprise not less than six nor more than eight members (from which the Minister will appoint the Chairman and Deputy Chairman) and the Chairman of the Gas Consultative Council, who will have been appointed by the Minister—a maximum membership of nine.

The members of the Gas Council and of the Area Boards—who may each be required to serve whole-time or part-time—will be paid such remuneration and allowances and such pension on retirement or death as may be determined by the Minister who must lay before each House of Parliament a statement of such remuneration and allowances and of any variation thereof.

## Gas Consultative Councils

Not later than six months after the vesting date there has to be established by the Minister in each Area a Gas Consultative Council, charged with the duties (a) of considering any matter affetcing the supply of gas in the Area, whether the subject of representations or not and, where action appears to be requisite, of notifying their conclusions to the Area Board; and (b) of considering and reporting to the Area Board on any such matter which may be referred to them by the Board.

Each Gas Consultative Council will comprise a Chairman appointed by the Minister and not less than 20 nor more than 30 other members appointed by the Minister, of whom (a) not less than half nor more than three-quarters shall be members of local authorities nominated by associations recognized by the Minister as representing such authorities; and (b) the remainder shall represent commerce, industry, labour, and the general interests of the consumers of gas and other persons or organizations interested in the development of gas.

A Gas Consultative Council may, subject to the approval of the Minister as to numbers, appoint officers as requisite for the proper exercise and performance of the functions of the Council and their local representative committees and individuals.

## Annual Reports

The following annual reports have to be made after the end of each financial year, the date of which has to be prescribed by Regulation:—

(a) By the Gas Council and each area Board to the Minister: A report, the form of which the Minister may determine, on the exercise and performance of their functions during the year and on their policy and programme. The report has to set out any direction given by the Minister, unless he has intimated that it is against the interests of national security to do so. The report of an Area Board has to include the annual report of the Gas Consultative Council.

(b) By each Gas Consultative Council to their Area Board: A report on the exercise and performance of their functions during the year.

(c) By the Minister to each House of Parliament: A copy of the reports of the Gas Council and Area Boards, together with a report as to the exercise of the Minister's functions during the year, except as regards matters which, in his opinion, it is against the interests of national security to disclose.

The property, rights, liabilities and obligations of undertakings will vest in such Area Boards as may be determined by Order of the Minister, on a date to be appointed by Order of the Minister. This date must not be less than three months after the establishment of the Gas Council and all the Area Boards and not be earlier than April 1, 1949, an Area Board being deemed to be properly constituted if the Chairman and three other members have been appointed. On the vesting date the company undertakings, with certain exceptions, will be dissolved. The agreements of undertakings will continue to have effect as if the appropriate Board had been a party thereto, an exception being an agreement for the rendering by any person of services to an undertaking as a director, other than a managing director or a director whose functions are substantially those of an employee.

## British Gas Stock

The creation, issue, and management of British Gas Stock is the responsibility of the Gas Council. Subject to the provisions of the *Second Schedule* to the Act, the Stock has to be issued, trans-

ferred, dealt with and redeemed on such terms as may be prescribed by Regulations of the Minister. Each Area Board must submit to the Gas Council estimates of the sums they will require to borrow by the issue of British Gas Stock, but if such borrowing is to meet expenditure on reorganization or development, the Council must be satisfied that the reorganization or development will be in accordance with the General Programme of the Board as approved by the Minister.

The Gas Council will have to determine—in accordance with a scheme agreed from time to time with the Minister after giving each Area Board an opportunity of making representations thereon—the shares in which the ultimate responsibility for meeting obligations on British Gas Stock issued by the Council is to be borne by each Area Board and the Council. The Area Boards have to pay to the Council the sums required (a) in respect of interest on or the redemption of British Gas Stock for which the Boards are responsible, including payments into a Sinking Fund; and (b) to meet the expenses incurred by the Council in issuing and managing such Stock.

An Area Board must consult the National Coal Board, and others operating coke ovens, if they are engaged in carbonization in the area of the Area Board, on the planning and execution of the General Programme of the Area Board. The National Coal Board in planning and carrying out any capital development and reorganization of their carbonization activities, must consult the Gas Council and the Area Board in whose area the activities are carried on.

The provisions as to the National Coal Board are contained in Sections 1 (6), 8 and 51 of the Gas Act, as a corollary to which Clause 45 of the *Iron and Steel Bill*, now before Parliament, provides that in carrying out any programme of capital development or reorganization of activities relating to carbonization, the proposed Iron and Steel Corporation of Great Britain shall consult with the National Coal Board, the Gas Council and any Area Board in whose area such activities are, or are to be, carried on; and that in carrying out any such programme in respect of their activities relating to carbonization the National Coal Board shall consult with the Corporation.

### Meter Testing

The Act transfers the responsibility for meter testing and stamping from local authorities and Justices to the Minister. As from the vesting date no meter, except meters already duly stamped, may be used for ascertaining the quantity of gas supplied unless it is examined and stamped by a meter examiner and conforms to such standards as may be prescribed by the Minister. The Minister will appoint competent and impartial persons as meter examiners, who will comply with his directions. Their remuneration, allowances, and pensions, will be determined and paid by the Minister, to whom all fees for the examination of meters will be paid.

After consultation with the Gas Council, the Minister must prescribe standards of pressure, purity, and uniformity of calorific value. He may prescribe other standards with respect to the properties, condition and composition of the gas supplied by Area Boards. The Regulations may exempt from any such standards gas supplied for industrial purposes only.

The property, rights, liabilities, and obligations of the British Gas Council and of certain other bodies serving the gas industry will vest on the vesting date in the Gas Council. In this connexion the provisions of the Act in regard to the disclaimer of agreements will apply, while the Sections relating to pensions and compensation will be extended to the employees of such organizations.

For the purpose of determining any question or dispute which, by any provision of the Act or any Regulations made thereunder, is expressly required to be determined by "arbitration under this Act," a Gas Arbitration Tribunal will be established.

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# MANCHESTER ASSOCIATION AT HARROGATE

## COLONEL W. M. CARR ON AREA BOARD SELECTION

HOPES that nationalization of the gas industry would not mean the moving away of the technicians in undertakings to do administrative jobs with the Area Boards were expressed by Colonel Wm. Moncrieff Carr, O.B.E., Chairman of the United Kingdom Gas Corporation, speaking at Harrogate, on Oct. 29. He was addressing the 160 members and guests of the Manchester District Association of Gas Engineers at a luncheon at which the Association had been the guests of the York, Harrogate, and District Group of Gas Companies, at the Hotel Majestic.

Replying to a toast, Colonel **Carr** said that he was happy to have had an opportunity of welcoming the Association to Harrogate—probably the last chance he would have as Chairman of the Harrogate Gas Company. He was now one of the oldest members of the Manchester District Association and had many happy memories of his membership. The Association had always done solid, constructive work and its communications had been of a very high practical standard.

Times were changing, at least so far as their existing industrial organization was concerned; that would shortly disappear, but so far as the job itself was concerned that had not changed. There was much speculation about when the Minister of Fuel and Power would announce the names of the Chairmen of the Area Gas Boards. He had read criticism in the technical Press of the delay in making the announcement, but he thought if they considered carefully the problem that was before the Minister, they would not complain about delay. Many of them, in their own spheres, had had to consider appointments and the question of making an important appointment involved careful consideration of every possible candidate. Having had in the past a great number of appointments to make and having always thought it one of his most difficult tasks, he had a great deal of sympathy with the Minister. He felt sure that it must mean that the Minister was giving full consideration to all possibilities.

### Working Together

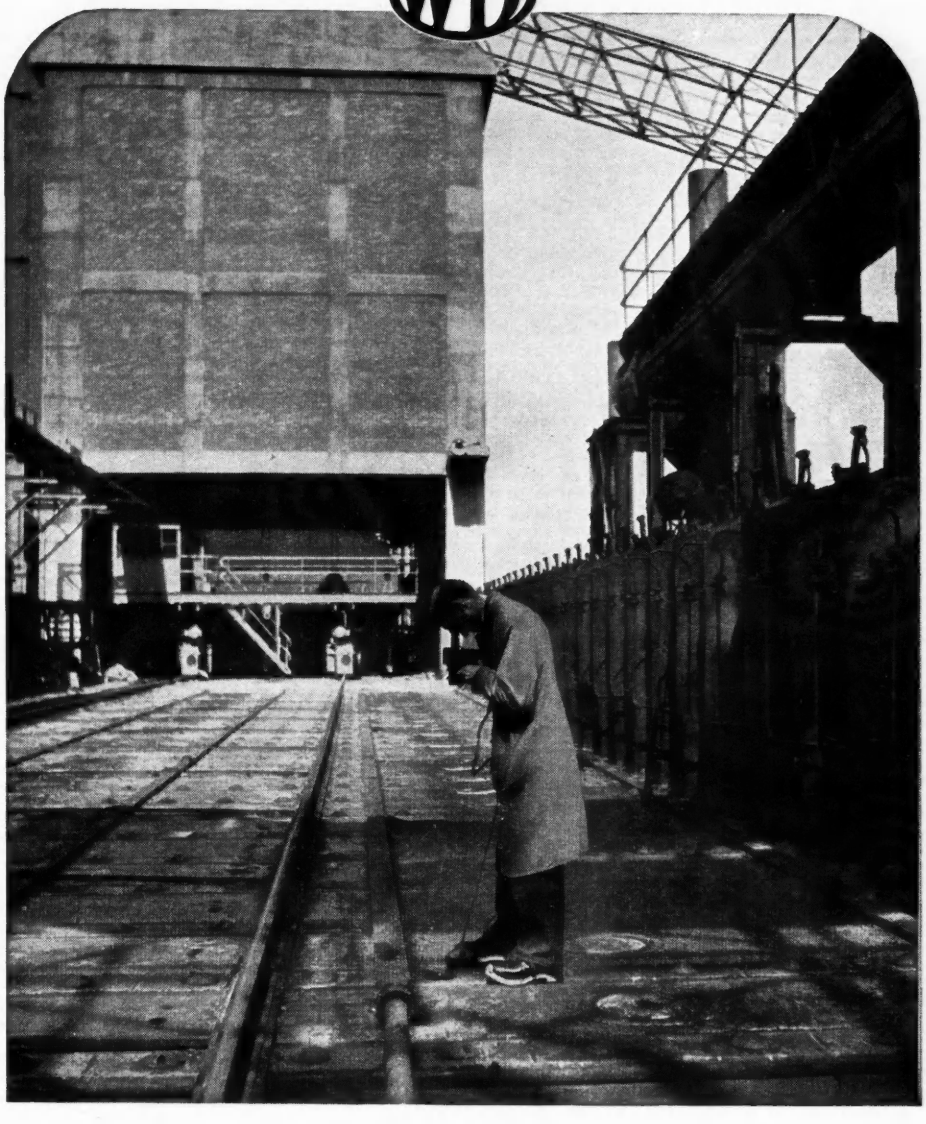
It behoved them to be patient, having regard to the magnitude of the task but, when the appointments were made, he sincerely hoped that those called upon to undertake the chairmanship of Area Boards, and who would therefore be responsible for guiding the policy of the industry, would appreciate how important it was to maintain the team spirit throughout the whole of the industry. He had learnt many lessons as a result of his work in the building up and operation of the United Kingdom Gas Corporation, but he had realized from the outset that anything he might do as an individual would be as nothing if he had not the whole-hearted co-operation of those working with him. As an individual he always believed in trying to put himself into the position of the other individual. He believed that the essence of the successful working of any organization was dependent entirely on the ability of those at the head to be able to maintain the maximum individuality of those who were working in the different stages of the organization. There was one thing they must have—interest and enthusiasm. Unless the individual was taking his full share of the responsibility, and unless he was sufficiently in the picture, to enable him to take his full share, then the organization could not succeed and work as it should.

Colonel Carr then spoke of the work done with him by Mr. Alexander McDonald, General Manager of the York, Harrogate, and District Group of Gas Companies, towards carrying out groupings in the United Kingdom Gas Corporation. They had aimed at the maximum decentralization, at keeping everybody in the picture. If nationalization was to succeed, as it must succeed, they had similarly to see that everybody was "kept in the picture." He had seen with some alarm what had been taking place in the electrical industry since nationalization. He had seen the building up of large regional boards, taking away principal officers from the operating units to be officers on the regional boards. He had seen the establishment of district boards and the taking away of further officers to be officers of the district boards. He wondered who was left to operate the undertakings? He read of the purchase of large buildings and establishments to form training centres. They had had to form training centres without large buildings and within their own organization. Where was the money coming from? The electricity consumer was paying and he could not afford to pay. The same would apply to the gas consumer in due course. They must balance and look into the economies of every move. They had a great responsibility which was just as great as ever it was, to provide a cheap and abundant supply of gas to the public of Great Britain.

### Oldest English Association

Mr. **G. A. Potter Kirby** (Chairman, York Gas Company), proposing the toast of the Manchester District Association of Gas Engineers, noted that the organization, founded in 1870, was the oldest English association of its kind. The original membership was 25, but to-day there were over 200 members, excluding students. Mentioning the names of several old members and past Presidents, he congratulated Mr. C. S. Shapley and Mr. S. Tagg on that morning having been elected Honorary Members.

The Manchester District Association had done a great deal of good work, and was responsible for the foundation of the Junior Gas Association from which most of the present members were found. He had been especially pleased to see, at the morning's



# W-D KOPPERS COKE OVENS
## AT THE WORLD'S LARGEST GAS WORKS

At the Beckton Station of The Gas Light and Coke Company the Third Battery — 30 W-D Koppers Ovens — has just been put to work. The Fourth Battery — a further 30 W-D Koppers — is under construction.

**THE WOODALL-DUCKHAM VERTICAL RETORT & OVEN CONSTRUCTION CO. (1920) LTD.**
EBURY AND ALLINGTON HOUSES, 136-150 VICTORIA STREET, LONDON, S.W.1
*Members of the Society of British Gas Industries*
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TAS/W-D.25

meeting, the large number of Institution of Gas Engineers' certificates presented. He hoped that the young men who received them would prosper and in due course become managers of gas undertakings "than which no prouder position can be filled by anyone." The Association had, too, been valuable in making it possible for meetings of senior executives to take place. Many papers had been presented to it which had become valuable works of reference. In that connexion the paper they had heard that morning from Mr. Alexander McDonald was worthy of being numbered among the most notable they had heard. He hoped that members would endeavour to keep the Association in being after nationalization, for it was then that they could do their best work by keeping members of the industry in close touch. "I hope, too, that the gas industry will continue to give, as it always has, service to the community which it is so proud to serve."

## Fathers and Sons

The **President** (Mr. James MacLusky, Halifax), responding, spoke of his pride at having occupied the chair of the oldest English gas association, covering the broad industrial belt of the North of England. There was a great tradition of service in the gas industry, carried out by many families, sons and grandsons following fathers. Many of them had been born into the gas industry, but whether they had or not they all felt the same desire to know more and to assist more in what was a scientific achievement—the carbonization of coal and the production of gaseous and solid smokeless fuel, and producing raw materials which were the foundation of the chemical industry. The status of the gas engineer was high, but they wished it to be higher as the standard of education was becoming higher and more comprehensive. A gas manager had not only to be a gas-maker but a mechanical engineer, and a chemical and structural engineer, and was a man who normally carried out a large amount of work with his own staff. In such a grouping as the York, Harrogate, and District Group of Gas Companies this process could be carried even further.

Proposing a toast to the York, Harrogate and District Group of Gas Companies, Mr. **A. K. Collinge** (Preston) thanked the Directors, the General Manager and Colonel Carr for the hospitality they had shown to the Association. Speaking of the paper presented by Mr. McDonald, he said that he believed it would increase in importance with the passing of time. There were many features in the organization of the York-Harrogate Group which would not fail to attract the attention of those who would be responsible for the integration of the industry under nationalization. Some of the points Mr. McDonald had indicated were sufficiently important to warrant emphasis. The major points in the organization were, firstly, the three fundamental principles on which the work had been based; secondly, that the process of grouping must be gradual; thirdly, each official should be given specific duties, thus not only being encouraged but required to use his own initiative; fourth, the aim of the executives in addition to their normal duties was to correlate activities and to support local officials; fifth, regular staff meetings ensured a full interchange of information; sixth, a group drawing office had been established and had behind it the technical staff of the United Kingdom Corporation; seventh, all group activities had fully justified themselves and direct labour invariably paid both in costs and time; eighth, consumer service depôts were maintained and much stress laid upon personal contact with the consumer.

The success of the Board's policy had been made abundantly evident. Colonel Carr's experience in integration was fully known and appreciated, while Mr. McDonald had had experience of at least three groupings. The industry owed him and Colonel Carr a real debt for formulating and implementing a policy of grouping which they would all like to see established as a model for the future.

## General Meeting

Before commencing the ordinary general meeting, which took place in the morning, the **President** extended a welcome to Mr. G. A. Potter Kirby, Chairman of the York Gas Company, and to the students who were later to receive their Institution of Gas Engineers certificates. Mr. **E. B. Field** (Rotherham) and Mr. **J. Fletcher** (Preston) were appointed scrutineers of the ballot for the election of officers.

The **President** announced that it was the unanimous recommendation of the Association that Mr. Samuel Tagg, C.B.E., J.P., M.Inst.C.E., M.Inst.Gas E., Managing Director, Preston Gas Company, and Mr. Charles Stuart Shapley, M.I.Mech.E., M.Inst.Gas E., Gas Engineer and General Manager, Leeds, be admitted to Honorary Membership of the Association.

Mr. **H. E. Bloor** (York) proposed the election of Mr. Tagg and said that the Association consisted principally of members from two regions, Lancashire and Yorkshire, to which Mr. Tagg had rendered magnificent service. For a period of 50 years he had been in close touch with Mr. Tagg, who had been literally born in a gas-works. After service at Cheltenham and Birkenhead he was appointed Engineer and Manager of Preston Gas Company in 1908, in which year he also became a member of the Manchester District Association. From that time his life had been an unqualified success, not only locally but in connexion with the industry as a whole. He was an original member of the British Commercial Gas Association, and had held office with the National Gas Council, the Federation of Gas Employers, the National Joint Industrial Council for the Gas Industry, and other bodies. In 1921 he was elected President of the Manchester District Association, and in 1923 he became President of the Institution of Gas Engineers. It would be difficult to imagine a life of greater service to the industry. Mr. Tagg had held every office in the industry open to him and had established such a position of prestige that he was entitled to the thanks of the whole industry.

The **President** seconded the proposal and said that Mr. Tagg was President of the Association in the year in which he had joined it. He had always regarded Mr. Tagg with his established position as an elder brother in the industry.

Mr. **Tagg** thanked Mr. Bloor and the President for their remarks and the members for the honour they had done him. Reference had been made to his 40 years of membership of the Association, but he had been interested in it before then, because it had been a period of great development in carbonizing plant. The Association had always been in the forefront of the development of the industry, which he hoped would continue to be so under nationalization. He was sure there could be no greater contribution to the industry than that made by the Association.

Mr. **G. E. Currier** proposed the election of Mr. Shapley to honorary membership. The Council rightly viewed honorary membership with careful consideration as the highest honour it could offer. Mr. Shapley joined the Association in 1909 and was its President for the two years 1926 and 1927, a distinction held only by two or three other members. Two or three years later he was elected President of the Institution, several important innovations taking place at that time, including the commencement of the Autumn Research Meeting. He thought that Mr. Shapley had from time to time received most of the national honours open to him in the industry, and while in Yorkshire he had held office with most of the associated bodies of the gas industry, carrying out his duties with great distinction. He had always done his best for the gas industry, and had devoted 95% of his life to it.

The **President** again seconded the motion, remarking that Mr. Shapley had been a leader of the gas industry in Yorkshire for a long period and always a strong advocate of the need for improving the status and remuneration of the gas engineer.

Mr. **Shapley** replied that the honours which had fallen to him during his career were entirely due to his having held the Presidency of the Association, and his thanks were due to the Manchester District Association of Gas Engineers. Mr. Currier had referred to innovations made during his year of Presidency. There was one which he had not spoken of—the method of selecting the President, which in the past had been haphazard. He had requested a secret ballot, the result being that every member of the Institution had a chance to become President. Mr. Currier had also mentioned the Autumn Research Meeting, which he regarded as the most important event of the year.

The following were then inducted into membership of the Association: Mr. N. Brookshank (Poulton-le-Fylde), Mr. H. N. Dann (Blackburn), Mr. R. B. Garside (Thornton Cleveleys), Mr. M. Hamshaw (Glossop), and Mr. F. J. Smith (New Mills).

It was announced that Mr. C. Rhodes Armitage (Windermere), who had been a member of the Association for 30 years, had regretfully been forced to resign because of difficulty in attending meetings.

The result of the ballot for officers of the Association was announced as follows:

*President:* Mr. J. D. Ashworth (Blackburn).
*Senior Vice-President:* Mr. N. G. Appleyard (Leeds).
*Junior Vice-President:* Mr. T. Haworth (Wigan).
*Hon. Secretary and Treasurer:* Mr. Alan H. Nicholson (Colne).
*Committee:* Mr. J. Castle (Leyland-Ormskirk), Mr. R. Halkett (Sheffield), Mr. A. L. Higham (Hull).
*Auditors:* Mr. J. H. Richmond (Runcorn), and Mr. A. F. Yates (Goole).

Institution of Gas Engineers Certificates, awarded for results in the 1948 examinations, were presented to 38 candidates.

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**To Help in Meeting the Educational Needs of Youth** in industry, as envisaged in the Education Act, 1944, a talk illustrated by 16 mm. films if desired has been arranged by the British Gas Council on the theme "Gas and the Community." The programme has been given with considerable success to L.C.C. institutes and commercial organizations in the London area. The talk, given by a woman lecturer, and illustrated by charts and blackboard diagrams, can be made to form part of a class project on gas supply, or to provide the basis for a lesson, or a series of lessons, relating gas and its hundreds of products to the everyday life of adolescent employees. It forms a useful preliminary to an actual visit to a gas-works.

# INTEGRATION THROUGH GROUPING*

## THE YORK-HARROGATE AND DISTRICT GROUP OF GAS COMPANIES

By ALEXANDER McDONALD, B.Sc., A.R.T.C., A.R.I.C., M.Inst.Gas E.,
General Manager

TO me the task of welding the six undertakings which constitute the York-Harrogate & District Group of Gas Companies into one coherent whole has been one of absorbing interest. I am, therefore, placing before you some information on the working of this Group in the hope that you also will find something of interest and perhaps a little of value.

Prior to 1939 there was a general trend towards amalgamations, but after the outbreak of hostilities the difficulty of obtaining the necessary Acts and Orders tended to prevent development in this direction. It was still possible to obtain many of the benefits of integration by grouping a number of adjacent undertakings under one unified management. This the United Kingdom Gas Corporation Limited proceeded to do.

There are three fundamental principles which justify the formation of any group:

(1) The pooling of resources so that costs to the individual units are minimized and consumers obtain the benefit of the cheapest possible supply.

(2) The improvement of facilities so that consumers in every part of the area receive a more satisfactory service.

(3) The appointment of specialists whose services become available to the smallest as well as to the largest undertaking.

Elsewhere I have given details of the preliminary work involved before any decision is taken on the advisability of group formation. To-day I propose to assume that such a decision has been taken and to draw a picture of the organization and working of this group, in order to show how we have satisfied the three principles enunciated.

It is realized that the basic functions of manufacture and supply must go on with absolute continuity and that this process of welding together the various units is, after all, of a secondary nature. The result is that the process must be gradual and in this group, even after four years of operation, it is by no means complete.

### The Individual Units

Consideration was first given to the formation of this group during 1943, and after the preliminary investigations had been carried out it was decided that the following six individual units should be brought together under one common management:

1. York Gas Company.
2. Harrogate Gas Company.
3. Yeadon and Guiseley Gas Company.
4. Otley Gas Company.
5. Malton Gas Company.
6. Easingwold Gas Light and Coke Company.

Here, then, we have six very divergent undertakings, varying from fairly large to very small, with no physical link between any of them.

In 1943 the York Company made 1,232 mill. cu.ft. of gas, which was supplied through 221 miles of main to almost 30,000 consumers within a reasonably compact area.

The Harrogate Company, on the other hand, covered a very scattered area of some 259 sq. miles. It had, itself, been built up by the amalgamation of eight smaller undertakings, and with 233 miles of main supplied 737 mill. cu.ft. of gas to almost 26,000 consumers.

The Yeadon and Guiseley Company was considerably smaller than either of the foregoing, making 221 mill. cu.ft. of gas, while Otley and Malton made 112 and 89 mill. cu.ft. respectively. Easingwold was entirely at the other end of the scale, making only 12 mill. cu.ft.

These individual units when brought together composed this group of six manufacturing stations, eight holder stations, 540 miles of main—of which 56 miles are high pressure—and serving just under 69,000 consumers (within an area of some 600 sq. miles) with 2,403 mill. cu.ft. of gas. The whole is illustrated in the accompanying diagram (Fig. 1).

### The Control

*The Board of Directors*

Each Company still retains its own legal identity and as such has its own Board of Directors who carry out the normal function of any Board and bear their own responsibility.

In order to obtain uniformity throughout the group, these individual Boards meet as a Joint Board to discuss all matters of policy and thus arrive at agreed decisions which appear in the individual minutes of each Company. This has the further advantage that every Director is kept fully informed on the working of each undertaking, so that no decision is reached which might be detrimental to any one area.

The Joint Board determined the number of officials who would be common to all companies, and the number of area officials with the duties and salaries of each. It made accommodation and facilities available for these officials and allocated the costs between the various component companies in proportion to their size. The pooling of these officials meant a reduction in the total managerial and secretarial staff, which was much facilitated by retirals.

*The Organization*

In building up the organization one principle was firmly adhered to—namely, each official was given specific duties and knew exactly to whom he was responsible, the responsibilities being placed fairly and squarely on the shoulders of the appropriate official. By this means the official is not only encouraged, but required to use his initiative to increase the efficiency of his department.

The officials appointed for the co-ordination of all activities within the group are as follows:

1. The General Manager.
2. The Secretary and Assistant General Manager.
3. The Production Engineer.
4. The Distribution Engineer.

These executive officials carry out all the normal duties implied by their title, but in their relationships with the local officials they neither seek to supersede nor override them. Their aim is to correlate the activities within the group and to support and reinforce the local officials.

The whole district covered by the group was divided into three areas, and an area manager was appointed to each. Generally, these officials are relieved of all responsibility for manufacture, but they are responsible to the Secretary for all local administration, clerical matters, and condition of establishment. They carry out the sales policy as laid down for the group, and maintain all local publicity. They are responsible to the Distribution Engineer for all supply questions and control all employees within their area with the exception of those engaged on the works.

All the officials already mentioned attend the Joint Board meetings, so that they are fully aware of all decisions and instructions of the Directors and the reasons therefor. The General Manager submits all reports or proposals to the Directors, but the officials are available for consultation on any question coming within their sphere.

At each manufacturing station a station engineer has been appointed, who is responsible to the Production Engineer for all technical matters on the works, and for the discipline and control of all personnel within the works boundaries. They are held responsible for the condition of all works plant, for the submission of requisitions for supplies, and for the maintenance of sufficient works stocks to meet their immediate requirements.

The organization may be summarized in the following statement, and is further elaborated in the accompanying chart (Fig. 2).

*The Joint Board of Directors* lays down general policy, authorizes procedure, and sanctions expenditure.

*The General Manager* administers the policy laid down by the Board, submits all reports and proposals, co-ordinates the working of each department, and generally accepts responsibility for the smooth and efficient working of the whole group.

*The Senior Officials* work out the details of the policy laid down for their particular sphere, co-ordinate proposals from each area, and are responsible for all development work.

*The Area Officials* are responsible for all local administration and efficiency. They control personnel within their sphere and are the initial contact with consumers.

### Administration

*General*

From the inception, all correspondence except purely local consumer correspondence was dealt with at Head Office, and then necessary copies or extracts of the relevant information were passed to the official interested. The central filing system was designed to accommodate the material for each company. Similarly, each Company requisitions all material from Head Office, which is responsible for ordering, following up, and delivery as required. All invoices come to Head Office, which pays all accounts and allocates to the appropriate Company. All secretarial work, such as business for Board meetings, and matters arising therefrom, is dealt with in the

* Paper presented to the Autumn Meeting of the Manchester District Association of Gas Engineers, Oct. 29, 1948

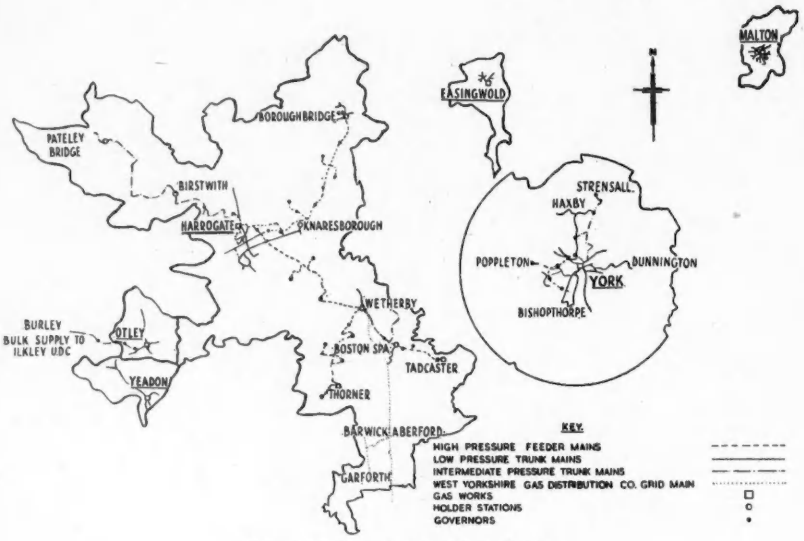


FIG. 1 — *Organization Control Chart.*

same way. On the accountancy side, all principal records are situated there, and as a result the balance sheet and all financial statistics are under the control of the appropriate official. This centralized accounting permits the full use of modern machines, and all gas accounts, for example, are dealt with on one machine.

The General Manager meets his executive officials daily when directions are given on correspondence, daily working reports are discussed, and progress reports or explanations of actions taken submitted. Any official is at liberty to raise any point on the working of his department. These meetings ensure that each official is aware of the happenings in other departments and is consequently enabled to take steps to meet any demand which may be made on his own department.

Co-ordination throughout the group is obtained by means of periodical staff meetings at which all executives and area officials are present. Each official receives a copy of all technical and financial returns as soon as these are prepared, and they are discussed at the meetings. Explanations of any particular result—good as well as bad —are submitted. Comparisons are made between areas so that a certain amount of competitive spirit is introduced.

Each official is called on to give an account of his stewardship, by which means much useful information is passed from official to official. Discussions ensue on general matters of policy so that the management is aware of each official's opinion on how any particular action may affect his area.

From the foregoing it will be observed that the administration and control is carried on from Head Office, and consequently the area and district offices become subsidiary, carrying only sufficient staff to maintain a satisfactory local consumer service.

The daily work, both distribution and clerical, is carried out ni the area office, where detailed consumer records are maintained, while the district office deals only with residuals, the immediate control of distribution jobs, and the payment of accounts.

The main books of each Company, including the capital stock records, are located at Head Office, thus allowing for the monthly, half-yearly, and annual statements to be prepared centrally.

The effect of this may be illustrated by reference to one area alone which comprises two Companies. The larger Company became the area office, and the area manager can adequately control the day-to-day working, while the smaller Company became a purely consumer service depot. By this means one senior member of the staff was transferred to Head Office, and three employees were retired on pension, thus effecting a considerable over-all saving.

Staff adjustments necessarily follow the formation of any group, but it is not essential to take drastic action. Thus retirements, the release of temporary staff, or the reinstatement of employees returned from the Services, can all be made use of to effect transfers between the companies. Wherever a higher post becomes vacant, all employees are given the opportunity of applying, so that an interest in the group as a whole is stimulated.

*Production*

Under the Production Engineer, the station engineers carry the responsibility for the results obtained on the works. As far as actual carbonizing is concerned, the Production Engineer exercises only a supervisory attitude unless he observes any discrepancy from his weekly returns. He makes suggestions for improving the efficiency to the station engineers, whose duty it is to investigate the possibilities, and if considered advisable to adopt them. On the other hand, the station engineer is entitled to call for assistance in any difficulty, or in putting into operation any improvement which he himself may have instituted. The aim is to relieve the station engineer of all extraneous duties, so that he can devote his time to the efficiency of his plant both technically and financially. He must, however, keep the Production Engineer fully informed on all occurrences within his works, so that other station engineers can be advised to avoid pitfalls or copy successes.

*Distribution*

The control of the distribution systems of the six companies in the group is vested in the Distribution Engineer, who works in close collaboration with the area managers and local distribution superintendents. They interpret general policy to local conditions and maintain all necessary consumer contacts.

The policy which has been set up in this group is to institute a regular pressure survey of every district twice per year, during the summer load and during the winter load. This is achieved by dividing each area into districts containing approximately 2,000 consumers. Pressure recorders are fixed at 12 points in each area and continuous readings obtained at each of these points on a Saturday, which is the minimum day of the period, on a Sunday, with its maximum hourly load, and on the Monday, which is the maximum day. From these charts the maximum and minimum pressures are tabulated, the variation in pressure, and the transmission loss from the works or governor as the case may be. The whole is attached to a plan of the system and coloured to bring out any areas where a deficiency is observed.

The information thus obtained, in conjunction with load surveys, is of value in formulating reinforcement schemes or utilizing existing mains for new purposes. The continuous nature of these surveys enables the trend of pressure to be watched, and steps can be taken to rectify the position before any serious deficiency occurs.

*Pooling of Employees*

Most gas undertakings ensure sufficient employees to cover all emergencies, such as sickness, absenteeism, breakdowns, or additional work. With the formation of a group the total number of employees can be reduced if arrangements are made for transfers when required.

Accordingly each unit was asked to specify the establishment necessary to meet their day-to-day requirements and are aware of the fact that for special requirements they can call on one of the associated companies, through the Production Engineer, or the Distribution Engineer, for assistance. These temporary transfers of men are of particular assistance to the smaller undertakings, where the wages of even one man can seriously increase costs.

Thus it was that during the flooding of 1947 we were enabled to transfer men, pumps, and material easily from those undertakings not affected to those in difficulties. Similarly, bricklayers, mechanics, gas-fitters, and labourers have all been transferred temporarily to carry out specific duties. The cost to the appropriate Company represents only the time and material necessary to carry out the work.

## Construction and Development

*Works*

It was evident at a very early date that several of the works were exceeding the capacity of their plant, and it became necessary to investigate the position with a view to reorganization to meet the present and anticipated future demands. Each area was taken in turn and an exhaustive survey of probable loading over a period of years was carried out. This involved close co-operation with the sales, industrial, and distribution departments to obtain accurate forecasts of probable development. Knowing these estimated requirements, the decision as to the types of plant or the order of procedure of installation was generally dictated by force of circumstances and not by preference or choice, since in most cases delivery was over a very extended period.

At York, even with restricted outputs in 1944, the maximum day's make amounted to 5½ mill. cu.ft., and it was estimated that within a short period this figure would be 7 to 7½ mill. cu.ft. In this event we should have far exceeded the capacity of our plant. Actually we have already reached 6¾ mill. cu.ft.

Arrangements were made to recondition and extend plant to cover the immediate requirements. Thereafter, a complete scheme of extensions was prepared to bring the capacity of the works up to 14½ mill. cu.ft. per day, of which 10½ mill. cu.ft. would be coal gas and the balance carburetted water-gas. This involved scrapping some of the very old plant, providing new coal gas and water-gas plant, additional railway accommodation, coal and coke handling facilities, and a complete new stream of purification plant.

The work was sectionalized but circumstances dictated which section could be carried out first. Ultimately the Ministry authorized the erection of the 4 mill. cu.ft. per day water-gas plant, a set of 4 mill.

cu.ft. per day purifiers, a 6 mill. cu.ft. per day stream of wet purification plant, additional railway facilities, and electrical equipment. The whole of this work, which is at present on hand, will cost well over £200,000. The complete scheme, which cannot be completed for a number of years, will cost a very much larger sum—but the important point is that the general plan of extensions is now in being and can be carried out as required.

Harrogate also found themselves in severe difficulties, and in this case it was necessary to proceed immediately with a 1 mill. cu.ft. per day water-gas plant, a 1 mill. cu.ft. per day set of purifiers, and boiler facilities. All this work has already been completed and has enabled us to maintain the supplies in the district. Holder capacity was exceptionally short, amounting to only 1,300,000 cu.ft. for a maximum day's output of 4,150,000 cu.ft. Immediate steps were taken to rectify this position by the erection of a 2 mill. cu.ft. holder. This work is proceeding at the present time.

In order to meet the estimated requirements it has been found necessary to proceed with the reconstruction of carbonizing plant which had been out of operation for a number of years and to re-

by the comparatively small number of scattered units in rural areas.

In formulating mains capacities for new housing schemes the consumption per consumer per maximum hour is taken as 30 cu.ft. Naturally this is in excess of existing consumptions, which we find vary from 16 to 20 cu.ft., but is in keeping with our target figure of 200 therms per annum per domestic consumer.

As on the works, so also on the district extensive reinforcement schemes have been formulated to meet the rapid expansion of outputs and possible future demands. In York it was necessary to carry out a reinforcement scheme for the western side of the city as soon as possible after the end of hostilities. This involved the laying of 5½ miles of 24 in., 18 in., 12 in., and 8 in. mains, which was completed in 1946 at a cost of almost £67,000. This main, initially working on low pressure, is designed for gas up to 10 lb./sq. in. pressure, and will feed into the low pressure system through seven district governors. After completion of this main the average increase in pressure amounted to 1.7 in. W.G., and in comparison with the previous year the consumption increased by 15%. At the present time the initial survey work is being carried out to reinforce the eastern side of the city,

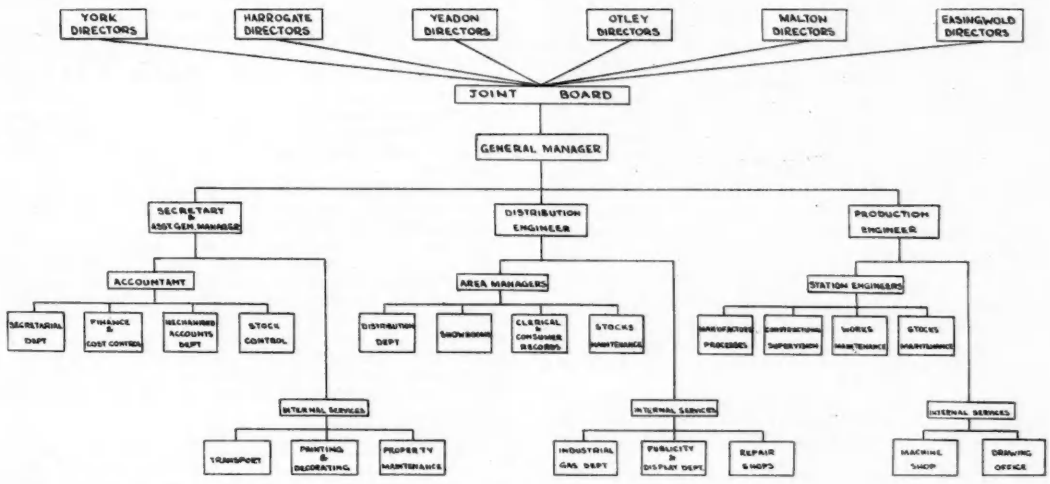


FIG. 2

organize the coke handling plant to meet the altered conditions. Other work, such as additional coal handling and condensing plant, is at present under consideration, but here again the work already completed and that already in progress will cost in the region of £200,000.

Both the works at Yeadon and at Otley were approaching capacity, and in this case an interesting solution was evolved. It had been intended that both these works should be closed down and supplied from the grid mains of the West Yorkshire Gas Distribution Company. The intervention of the war and the resultant shortage of gas on the grid prevented this being done. It was therefore decided to transfer from York a 500,000 cu.ft. per day blue water-gas plant, convert it to carburetted water-gas, and install it at Yeadon. A trunk main is to be laid from Yeadon to Otley with the necessary compressor, by which means Otley can be supplied with all its additional requirements.

In due course, when grid gas becomes available, this trunk main can form part of the grid system, or, should it be decided not to proceed with an extension of the grid, then centralization of all manufacture can be carried out at Yeadon. The estimated cost of the present proposals, most of which are already proceeding, is approximately £40,000.

It must be evident that the technical details of these schemes cannot be included in a paper of this nature, however interesting they may be. The point I want to stress is that even in a group of this size it would be impossible to design and execute the work without additional staff. This has not been necessary because behind this group the technical staff of the United Kingdom Gas Corporation, is available to carry out all the detail work in the preparation of drawings, specifications, &c,, at considerably less cost than would otherwise have been possible.

*District*

As in most undertakings at the present time, there has been a considerable amount of work in main and service laying to new housing projects. The mains laid during 1947 amounted to 9.03 miles at a cost of £19.45 per house inclusive of all mains and services. During the present year 14.7 miles are scheduled to be laid for 2,256 houses. This cost may be higher than in some areas, but this is accounted for

and this section will ultimately be linked up with that already laid to form a complete ring main.

Perhaps the most interesting feature throughout the group is the rural development of the Harrogate Gas Company by means of a local high-pressure grid. This scheme, which, as already indicated, utilizes over 50 miles of main, serves 48 district councils and parishes in areas as far distant as Pateley Bridge and the Nidd Valley on the north-west of Harrogate, Knaresborough and Boroughbridge on the north-east side, and Boston Spa and Tadcaster on the south-east. The Harrogate Gas Company is linked to the grid mains of the West Yorkshire Gas Distribution Company at Wetherby, so that a certain proportion of the gas supplied in that area comes from coke ovens. There are eight holder stations linked to Harrogate by these mains and the supply in the surrounding districts is by low pressure from these holders. On the other hand, there are districts where no holders exist and the supply is through district or individual governors. In total there are 34 district high pressure governors, supplying 1,654 consumers without holders. It will be appreciated that this involves the mains carrying the peak load in these areas.

The development in these outlying areas has involved us in the first stages of two major schemes, which will ultimately entail the re-laying in larger mains of the greater proportion of two "legs" of the Harrogate grid. In the Nidd Valley some 2,400 yards of a proposed total of 5½ miles have already been laid in 10 in. spun iron main. Extensions to the holders and the installation of boosters are in progress at the Pateley Bridge holder station. The estimated cost of the scheme is approximately £40,000.

Work has also been commenced on the Knaresborough-Boroughbridge "leg," where 5,000 yards of 12 in. main have already been laid. The complete scheme, which includes additional storage accommodation at Boroughbridge, will link up with existing high pressure mains to provide a complete ring main for Harrogate and will cost a further £48,000. The completion of this first stage has enabled us to reduce our initial pressure from 14 to 9 lb./sq. in. and still deliver a greater quantity of gas to the holder stations, where conditions are much improved.

Other reinforcement schemes have been approved at Malton, Tadcaster, Easingwold, Boston Spa, Otley, &c., some of which are in progress and are already giving improved pressures. The estimated cost of this work is in the region of £29,000. There is no

need to detail these schemes in this paper, the point being that throughout the whole area steps are being taken to give every consumer the best possible service.

## Group Activities

It soon became apparent that in a group of this nature there are a number of activities common to each unit, which, by careful co-ordination, are a potential source of economies, and I now propose to give you details of our attitude to these possibilities.

*Stock Control*

Originally, the buying, control, and handling of materials was carried out by each individual undertaking. This involved the carrying of excessive spares at each unit in order to meet emergencies, which in its turn meant working capital being tied up in excess of actual requirements. With two large undertakings situated 20 miles apart, it was decided that two principal stores should be set up to cover the whole area—one at York and the other at Harrogate. All appliances and materials are purchased in bulk for delivery to either of these stores. All other Companies draw on these stores by requisition to Head Office, and carry only sufficient stock to meet their immediate requirements. All stocks are co-ordinated at Head Office under "stock control," so that when any requisition is received the stocks at each store can be checked and delivery made as required. Uniformity of types of appliances, fittings, and stocks generally is ensured by this means, and with the present shortage of certain supplies any item can be directed to those areas with the greatest need.

Stock control is immediately able to give an overall picture of all stocks held, their quantity, and source of supply. Officials are relieved of the duty of keeping main stores records and correspondence pressing for delivery, &c., as this work is carried out by stock control. In a similar manner, the amount of accounting work is reduced since there is a diminution in the total number of orders and consequently of invoices received. A system of this nature is essential if the full value of grouping is to be obtained.

*Transport*

Before the formation of the group, each undertaking had its own fleet of vehicles, sometimes in excess of actual requirements in order to meet emergencies. These so-called emergencies were frequently put forward throughout the area as an argument for the retention of the maximum number of vehicles.

Reserves of personnel and of spares were carried by each undertaking, so that there should be no breakdown in the service. When an undertaking found itself short of transport contractors were brought in to meet the deficiency.

It was therefore decided to co-ordinate these facilities, including private cars, in a single transport department under control from Head Office. This pooling of resources effected an immediate reduction in the total number of vehicles, outside contracting was reduced to the minimum, areas formerly without transport had this facility available, and overall costs were minimized. Owing to the scattered nature of the area, vehicles are allocated to their particular district and for convenience of operation are garaged in that area.

Registration as fleet owners with the Society of Motor Traders and Manufacturers has ensured special discounts on the purchase of all new vehicles. As an example on the savings to be effected by the re-organization of transport, it can be stated that in one area alone the saving on coke transport amounted to no less than 1s. 4.8d. per ton on a fairly extensive tonnage.

The type and appearance of vehicles varied largely from Company to Company, and even from department to department. There is little hope of achieving standardization of type within a reasonable period, although a start has been made towards this end. Uniform decoration has, however, been adopted throughout the group, as this was considered to have a certain publicity value and facilitated transfers from area to area.

A properly equipped repair shop was set up at Harrogate, under the charge of a skilled employee. Routine regular repairs and maintenance for all vehicles is carried out at this workshop, whereas much of this work was formerly haphazard, being carried out only when a vehicle could be spared.

The equipment installed allows full repairs to be carried out, which facilities would have been decidedly uneconomic for any individual company.

As a result of this we were enabled to set up a system of costing, which shows repairs and running costs, and from this the cost per mile, the cost per ton/mile, and the cost per hour can be obtained for each vehicle. When renewals become necessary we are thus enabled to scrap the most costly machine, and information is also available which assists in deciding the most advantageous type.

*Painting*

With six manufacturing stations, eight holder stations, and 12 showrooms, apart from individual offices and quite a fair amount of house property, it soon became apparent that co-ordination of the individual activities of the various companies would be mutually advantageous. To obtain this co-ordination, a painting squad was set up at Harrogate. This squad is in charge of a skilled decorator and is composed of qualified painters together with the requisite labour. The whole is under the control of an official at Head Office. Each area manager and station engineer requisitions his requirements periodically, and the work is put on a programme so that the squad is kept fully occupied summer and winter with external and internal work respectively. In order to avoid peaks and quiet periods some of the more extensive work, such as holder painting—which would involve carrying additional employees to meet this peak period—is also programmed but is contracted out.

The painting squad submits estimates for all work, and the area managers are at liberty to obtain alternative quotations. If they are satisfied that an outside painter will do the work better and cheaper the responsibility is theirs to make the choice.

*Drawing Office*

The drawing office at Harrogate was extended to meet the requirements of the group. Here we have a properly equipped office under the control of a fully skilled draughtsman, where any of the requirements of the various companies can be met. Records of all companies are being brought up to date and the necessary design work for any unit is executed. Here, one drawing office carries out the work formerly done at two offices, and, in addition, the drawings for the smaller undertakings are also prepared.

*Mechanics' Workshop*

A fully equipped mechanics' workshop with auxiliary blacksmiths' and joiners' shops were set up at York. Naturally, a workshop is an essential feature of any large works, but this one was so designed as to be able to carry out any normal repair or new work for other undertakings in the group. Much work formerly given to outside firms —with the attendant delays and increased cost—has been avoided, and at the same time the duplication of employees in other Companies eliminated.

One of the biggest advantages of an internal service of this nature is the saving of time under present conditions—frequently more important that the actual question of costs. Thus, the overhaul of exhausters, boiler mountings, gas engines, valves, &c., have all been undertaken for the smaller Companies in the minimum time. The fabrication of coke skips, coal charging hoppers, oxide screens, &c., have also been usefully carried out. Examples could be given of work which has been carried out in this workshop at less than half the cost quoted by outside firms, with delivery also at a very much earlier date. The volume of work passing through such a workshop for the group is not only of assistance to the smaller Companies but also reduces the overall costs even to the larger undertakings.

*Industrial Department*

One of the most important aspects of grouping is that an industrial department can be set up and specialists appointed whose services are available in every part of the area. Confidence is frequently inspired in consumers who formerly received little or no attention.

This is not the place to discuss the value of the industrial load, but I would suggest that even with very favourable tariffs the increased load reduces the overall cost per therm and increases the consumption per mile of main. Ultimately the domestic consumer benefits. We at least have viewed it from the angle that it is well worth while to develop the industrial load. The official appointed started off by carrying out a survey of the possibilities within the area, which is of value in formulating proposals for works extensions or reinforcement schemes on the district.

Since the beginning of last year, 492 enquiries have been dealt with. Of these, 239 jobs have been completed, adding an estimated load of 138 mill. cu.ft. per annum. At the present time, 53 jobs have been accepted but are awaiting delivery of appliances, and 56 enquiries are still under negotiation. These latter two categories can give an additional load of 800 mill. cu.ft. per annum, if all the negotiations are successful.

*Appliance Repair Shop*

Before the formation of the group, both York and Harrogate maintained their own appliance and meter repair shops. The smaller Companies carried out little, if any, work in this direction. It was therefore decided to centralize appliance repairs at York and meter repairs at Harrogate, thus avoiding duplication of employees and stocks of materials. A properly planned production line is being introduced at York, and while we are at present handling something like 270 appliances per month, the capacity will be stepped up to 370-400 appliances per month with an actual reduction in costs. This department is viewed not entirely from the aspect of costs, but rather as a service to the public, since we are able to carry out work in the absolute minimum of time and at the convenience of the consumer.

*Mainlaying Squad*

Wherever convenient, actual mainlaying is carried out by direct labour. In addition to the normal complement of men necessary to carry out the routine main and service work, a special squad has been built up which can be directed to any part of the area. By this means every job of any size is carried out by an adequate complement of experienced men equipped with the necessary plant to carry out the work. Where an extensive programme of large scale work is on hand the policy has been to call in outside contractors.

The cost of carrying out this work has been carefully watched,

and the following figures for new housing estates have been obtained and include an allowance for overheads and all outside charges:

| Spun iron main | Cost per yard |
|---|---|
| | s. d. |
| 3 in. .. .. .. .. .. .. | 15 6 |
| 4 in. .. .. .. .. .. .. | 15 5 |
| 6 in. .. .. .. .. .. .. | 27 9 |
| 8 in. .. .. .. .. .. .. | 32 6 |
| 10 in. .. .. .. .. .. .. | 38 4 |
| 12 in. .. .. .. .. .. .. | 55 3 |

Our experience of outside contractors is that their costs are considerably higher, although we have no direct comparative figures, as some of the contractors' work involved mainlaying in existing roads.

*Publicity*

The value of publicity—and under this heading I include every means by which we can make our services fully known to the public—is freely admitted. Some of the undertakings in the group carried out extensive publicity while others undertook little or none at all. It was therefore decided to co-ordinate these activities, and this is carried out in the meantime by existing officials, although it is intended to appoint an expert when facilities permit. This subject is viewed not from the point of view of reducing costs but rather from the point of view of obtaining value for expenditure.

I propose under this heading to deal with only three aspects:

*(i) Home Service*

We have appointed three home service advisers, who are located at York and Harrogate, but whose services are freely available in any part of the area at the discretion of the area managers. The area managers are encouraged to use this facility in the more outlying areas as well as in the more thickly populated towns. The home service adviser calls at the home of any consumer where a new appliance—particularly a cooker—has been fitted. She ensures that the appliance is giving satisfaction and that the consumer thoroughly understands the appliance. Should any consumer request her services, she will make a special call if necessary and demonstrate the procedure in the consumer's own home. This service is carried a step further by writing to the consumer and inviting her to attend lectures and demonstrations, which are a regular feature of the system. Contact is made with every known women's organization within our area, and the offer of special demonstrations at their regular meetings is made. The home service advisers are present at all exhibitions and special features, such as baking and fruit bottling competitions, are arranged, at which additional prizes are given to school children.

The growing popularity of this class of publicity is well illustrated in the following table:

| | 1945 | 1946 | 1947 | 1948 (seven months) |
|---|---|---|---|---|
| Number of demonstrations .. .. | 10 | 78 | 224 | 128 |
| Total attendance .. | 337 | 3,704 | 8,113 | 6,387 |
| Number of home calls.. | — | 206 | 1,218 | 1,354 |

I am perfectly aware that there is little new in this, particularly to the larger undertakings, but it is only by some co-operative method such as grouping that this facility can be made available to the smaller undertakings, which thus obtain the publicity offered.

*(ii) Film Displays*

In order to further our publicity, the group purchased a standard 16 mm. film projector, and every opportunity is taken to give displays throughout the whole area, giving much needed publicity, especially in the rural areas. Displays are offered to all types of organizations, and special displays are arranged, for example, for teachers and pupils, using educational films. The choice of a well balanced programme to suit the particular type of audience is important, and the experience of an expert operator is of value in this respect. The display opens with a short of the "U.K. Flambeau" and the intimation that the programme is given by the courtesy of the York-Harrogate and District Group of Gas Companies. At least one film, and generally two, of direct value to the undertaking is shown, and full use is made of the B.G.C. library, as well as independent film bureaux.

The following table shows that this type of publicity is giving an ever-increasing number of contacts with the public in every constituent company.

| | 1945 | 1946 | 1947 | 1948 (seven months) |
|---|---|---|---|---|
| Number of displays .. | — | 21 | 58 | 49 |
| Total attendance .. | — | 1,765 | 7,089 | 4,360 |

*(iii) Window Displays*

Many of the smaller showrooms made little use of display material, simply putting a few cookers or appliances into the windows. It was therefore decided to embark on a scheme of preparing displays which could be adapted to suit any of the windows, and circulating those displays by rotation to the different showrooms. Area managers are free to use these displays at their discretion, or to obtain displays from outside, but we find that there are regular requests for special displays to tie up with items of local interest. Again, this department, which has the necessary equipment for enlarging, cutting out, and colouring, is viewed not entirely from the point of view of reducing advertizing expenditure, but rather from that of obtaining publicity at a reasonable cost where none formerly existed. This work has not been in operation sufficiently long for actual costs to be available, as we were faced with the initial cost of equipment and material. Nevertheless, one undertaking alone paid anything from £20 to £38 for a display which was used in one showroom only, and this department is producing effective displays for approximately £15, which

FIG. 3

when circulated through a number of our showrooms makes the ultimate cost to any one showroom exceptionally small.

The accompanying photograph (Fig. 3) is one example of a display prepared for a parade in this area, utilizing the present shortage of cigarettes as its theme.

## The Final Group

In order to complete the picture of this group as now existing, a brief survey of some of the statistics shows what has been happening while the process of re-organization has been proceeding. The details are set out in the Appendix, from which it is observed that the basic functions of manufacture and supply have been steadily climbing. Thus, in 1943, the last year before the formation of the group, the gas made amounted to 2,403 mill. cu.ft., while in 1947 this figure had increased to 3,264 mill. cu.ft., equivalent to a 36% increase in a period of four years.

It always seems better business to obtain such an increase from existing consumers, since this can usually be obtained without the excessive capital expenditure involved in extending to new areas. While our mileage of mains has increased, from 540 miles to 567.5 miles, mainly on account of new housing, the consumption per mile of main has far outstripped this figure. The actual figures are from 3,875,000 cu.ft. to 4,966,000 cu.ft. per mile, which is a 25% increase per mile.

The same aspect is, of course, reflected in the overall consumption per consumer, which has increased from approximately 30,000 cu.ft. per annum to 40,000 cu.ft. per annum. As must have been observed from previous remarks, there has already been heavy capital expenditure, but it is important to note that the capital expended per mill. cu.ft. of gas sold has decreased—evidence of the fact that the output is keeping pace with the expenditure. It is agreed that we are still facing heavy expenditure, but there is reason to believe that the output will continue in the right direction.

Before turning to the actual costs during this period it might not be out of place to observe that the average cost of coal delivered to this group has increased by as much as 42%—namely, from 34s. 7d. per ton in 1943 to 49s. 3d. per ton in 1947. On the other hand, during the same period, the average price received for gas has increased from 9.61d. per therm to 10.92d. per therm, only a 14% increase. It is idle to speculate what the future may hold, but these figures would seem to indicate that gaseous fuel is gradually achieving a more favourable competitive position with solid fuel, which in turn increases our ability to develop.

I do not wish to weary you with explanations and statistics, but the figures of costs given in the Appendix bring out the important fact that in four years the net cost of coal has increased from 2.21d. per therm to 3.37d. per therm, almost exactly 50%.

The increase in manufacture, distribution, and management charges, however, has only been 0.30d. per therm, or 5% over the 1943 figures. This has been achieved during a period when wages and materials have steadily continued to increase. At the same time, it is claimed that the consumers in this area have had ever-increasing facilities placed at their disposal. It is perhaps worthy of mention that during a period when the cost of coal has been continually increasing, the dividend and interest position has been going in the reverse direction.

To summarize, we find that the net cost of coal has increased by 1.16d. per therm, manufacture, distribution, and management by only 0.30d. per therm, and the average price received has increased by 1.31d. per therm.

## Conclusion

In my introductory remarks I indicated that there are three fundamental principles which justify integration through grouping. I have tried to show how we have fulfilled our obligations in this respect. First of all we have carried out our organization in such a way that by pooling the resources of the individual units we have minimized our costs, to give the consumers the benefit of the cheapest possible supply, in spite of the steadily increasing cost of raw materials and wages. Secondly, we have set out to provide, plant, distribution systems, and facilities which will give the consumers throughout the whole area not only a better service but the service which they are entitled to expect. Lastly, the appointment of specialists in all spheres of activity has assisted in fulfilling the two previous functions in a manner which none of the Companies could have carried out individually.

I am well aware that many of the large undertakings provide such facilities and are frequently willing to assist their smaller neighbours, but I would suggest that, through grouping, these smaller undertakings obtain that assistance as a right and not as a privilege. In our organization we have obtained most of the benefits of centralization, but by placing the responsibility on the local officials we have also obtained many of the benefits of decentralization.

TABLE 1.—*Gas Made and/or Purchased*
In mill. cu.ft.

| | 1943 | 1944 | 1945 | 1946 | 1947 |
|---|---|---|---|---|---|
| York ... ... ... | 1,231.7 | 1,321.1 | 1,403.1 | 1,573.9 | 1,653.3 |
| Harrogate ... ... | 737.2 | 838.3 | 894.9 | 985.1 | 1,055.2 |
| Yeadon ... ... ... | 220.8 | 246.4 | 241.1 | 265.9 | 280.7 |
| Otley ... ... ... | 112.4 | 119.9 | 128.0 | 143.7 | 152.6 |
| Malton ... ... ... | 88.8 | 97.3 | 100.8 | 107.9 | 106.9 |
| Easingwold ... ... | 12.1 | 12.5 | 12.7 | 14.1 | 15.8 |
| Group ... ... ... | 2,403.0 | 2,635.5 | 2,780.6 | 3,089.6 | 3,264.5 |

TABLE 2.—*General Statistics*

| | 1943 | 1944 | 1945 | 1946 | 1947 |
|---|---|---|---|---|---|
| Miles main ... ... | 540 | 544.2 | 551.2 | 558.5 | 567.5 |
| Consumption/mile ... | 3,875,000 | 4,203,300 | 4,316,000 | 4,793,000 | 4,966,047 |
| Number of consumers ... | 69,895 | 68,787 | 68,799 | 68,902 | 70,387 |
| Consumption/consumer... | 29.938 | 33.141 | 34.519 | 38.851 | 40.039 |
| Cost coal/ton ... ... | 34s. 7d. | 39s. 9d. | 45s. | 47s. | 49s. 3d. |

TABLE 3.—*Costs per Therm Sold*
In pence

| | 1943 | 1944 | 1945 | 1946 | 1947 |
|---|---|---|---|---|---|
| Net cost/coal ... ... | 2.21 | 2.96 | 3.81 | 3.71 | 3.37 |
| Cost/manufacture ... | 2.99 | 2.58 | 2.99 | 2.98 | 3.19 |
| Cost/distribution ... | 2.07 | 1.87 | 1.51 | 1.86 | 2.05 |
| Cost/management ... | 1.09 | 1.10 | 1.10 | 1.12 | 1.21 |
| Cost of taxes ... ... | 0.31 | 0.34 | 0.34 | 0.37 | 0.36 |
| Dividends and interest .... | 1.67 | 1.49 | 1.51 | 1.49 | 1.50 |
| Average price received/ therm ... ... ... | 9.61 | 9.99 | 10.37 | 10.89 | 10.92 |

TABLE 4.—*Capital Expended*
In £ per mill. cu.ft.

| | 1943 | 1944 | 1945 | 1946 | 1947 |
|---|---|---|---|---|---|
| York ... ... ... | 475 | 438 | 464 | 447 | 448 |
| Harrogate ... ... | 859 | 745 | 717 | 703 | 708 |
| Yeadon ... ... ... | 451 | 412 | 441 | 419 | 408 |
| Otley ... ... ... | 848 | 796 | 749 | 710 | 692 |
| Malton ... ... ... | 436 | 454 | 517 | 510 | 555 |
| Easingwold ... ... | 428 | 430 | 423 | 409 | 373 |
| Group ... ... ... | 606 | 550 | 558 | 540 | 543 |

From the facts and figures submitted in this paper one is reasonably entitled to conclude that "Integration Through Grouping" in the case of the York-Harrogate and District Group of Gas Companies at least has been justified.

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**The Institute of Public Administration** awards the Haldane Silver Medal and a cash prize of £10 each year to the writer of the essay which is regarded as the most useful contribution to the study of public administration. The competition is open to public servants throughout the Commonwealth. Competitors may choose any subject within the field of public administration, but are advised to deal with one of which they have made a special study or which lies within their personal experience. The essay should deal particularly with the administrative aspect of the selected subject and particular credit will be given for constructive suggestions for solving current problems or improving on prevailing practice. Essays must not exceed 5,000 words. Essays should be posted to the Institute of Public Administration, 18, Ashley Place, London, S.W.1, for delivery not later than May 31, 1949.

## GAS FOR "HOUSEWIFE AND HOME"

A series of 10 lectures and demonstrations grouped under the composite title of "Housewife and Home" is attracting large crowds on Wednesday afternoons to the St. Andrews Hall, Cambridge. The Cambridgeshire Education Committee is sponsoring for the general arrangements, assisted by various local firms, and on Oct. 13 the Cambridge University and Town Gas Light Company accepted the invitation to provide a display and demonstration, confident that it could show much which would appeal to the housewife and provide comfort and distinction to her home.

With this in view, the sales staff designed some very attractive stands, which showed to advantage the gas industry's contribution to all departments of the home. Cookery, water heating, refrigeration, and space heating were all featured, and considerable public interest was reflected in the many enquiries which were directed to the members of the Gas Company's staff who were in constant attendance to advise and explain.

During the afternoon, cookery by gas was demonstrated by the Company's Home Service Section. Owing to the illness of Miss R. Bennett, the Company's Chief Demonstrator, Mrs. Joan Latham deputized at short notice and showed how a complete meal consisting of three dishes could be cooked at one time in a single oven.

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## NEW DRAFT CODES OF PRACTICE

The Codes of Practice Committee has issued, as a draft for comment, Code 131.101, "Flues for domestic appliances burning solid fuel," prepared by a committee convened by the Royal Institute of British Architects. A companion Code, 131.201, "Flues for larger buildings, for central heating and hot water systems," is now in preparation. The Code deals with flues and chimneys depending for their operation upon natural draught, and includes recommendations regarding chimneys built of brick, masonry, *in situ* concrete, precast concrete units, metal and asbestos cement, or of hollow block construction. Its scope is restricted to flues and chimneys serving appliances with a maximum heat output of 100,000 B.Th.U. per hour where the temperature of the flue gases leaving the appliance does not exceed 850° F.

An outstanding feature of the Code is the section on materials, appliances, and components, which are described in detail: a wide range is given from which a selection, according to design requirements, may be made. A comprehensive list of relevant British Standards is included.

Particular interest will be found in the section on design considerations, which are examined in general and in detail. Information is given on the size and height of flues, throat and fireplace openings, bends, and changes of section, and condensation; also on the height and position of chimneys above the roof in relation to fire hazard and wind effects. Hoods and flues for fish-frying appliances are dealt with in an appendix. There are eight diagrams illustrating the text.

The Code is in draft form and subject to amendment, before final publication, in the light of comments received. Comments, which are invited and welcome, should be submitted by Nov. 17.

Copies of the draft Code may be obtained from the British Standards Institution, 24-28, Victoria Street, London, S.W.1, price 5s., post free proof reference CP(B)787.

The Committee has also issued as a draft for comment Code 332.303, "Gas fired boilers for central heating by hot water," prepared by a committee convened by the Institution of Gas Engineers. The Code deals with the installation of gas fired boilers used for the space-heating of buildings by hot water and for the supply of domestic hot water if required. It is complementary to Code 341, "Central heating with steam or hot water," in course of preparation, and to Code 342, "Centralized domestic hot water service."

Codes of Practice invariably stress the importance of early collaboration between all interested parties and of formulating a programme of work in the interests of economy of effort and time; this practice has been followed in the present instance. The Code contains matter of interest not only to the heating engineer but to the architect, consulting engineer, builder, and contractor. The section dealing with design is particularly comprehensive and includes detailed information on such diverse subjects as siting, fire precautions, the selection of boilers of appropriate rating, domestic hot water supply combined with central heating, gas supply and connexions, and various types of temperature control. A list of relevant British Standards is given and the Code concludes with notes on work on and off site, inspection and testing, and maintenance. There are 11 diagrams illustrating the text.

The Code is in draft form and subject, before final publication, to amendment in the light of comments received. Comments are invited, and should be submitted by Nov. 24. Copies may be obtained from the British Standards Institution, price 3s., proof reference CP(B)788.

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**The Discussion Editions of Communications** Nos. 325/143 and 326/144 of the Institution of Gas Engineers are now available from the Institution, price 2s. 6d. per copy (post free).

# GAS UNDERTAKINGS' RESULTS

**Associated Gas and Water Undertakings Ltd.**

The directors have declared an interim dividend of 2½% actual, less tax, on the Ordinary stock and 3% actual, less tax, on the Deferred stock on account of the year ending Mar. 31, 1949, payable Nov. 30. Last year interim dividends of 2¼% and 3½% were paid on the Ordinary stock and Deferred stock and final dividends of 2¼% and 2½%, making 5% and 6% respectively. The final dividends were reduced to conform with the Gas Act, 1948, the rate of dividends being limited to those paid for the year ended Mar. 31, 1947.

**Smethwick Gas Department**

Gas output for the year ended Mar. 31 totalled 1,430 mill. cu.ft., an increase of nearly 5% over the previous year and 36% more than in 1939. Even higher figures might have been recorded if the plant had not worked far beyond its rated capacity, and it was only with the aid of bulk supplies from Birmingham that it was possible to maintain supplies at their present level. Additional demands amounting to more than 500 mill. cu.ft. per annum have been refused, but proposals for important extensions to the manufacturing plant have been approved by the Ministry of Fuel and Power, and contracts exceeding £1 mill. have already been placed. It is unlikely that the programme will be completed for five years, but the initial stages have been started. Last year's domestic consumption of over 600 mill. cu.ft. was the highest yet recorded, and the industrial consumption of over 654 mill. cu.ft. slightly exceeded the total output of the Department for 1920, by comparison with which the industrial consumption has increased by over 350%. Gross profit was £47,403, compared with £34,475 for the previous year, and the net profit was £27,340, against £16,318.

# PUBLICATIONS RECEIVED

From the Widnes Foundry and Engineering Co., Ltd., Lugsdale Road, Widnes, Lancs, comes a booklet on fabrication in steel. Holding the view that "a picture explains more than a thousand words," this publication mainly consists of photographs, of among other things, adsorbers, steel tanks with fabricated support cradles, and mild steel storage tanks.

* * *

Stewarts and Lloyds, Ltd., Brook House Upper Brook Street, London, W.1, have published a pamphlet dealing with steel columns for public lighting—those which they have developed as standards on Group "A" and "B" roads. For gas lighting, the pamphlet notes the Company's Reservoir gas column which dispenses with all internal connexions between the service pipe and the lamp.

* * *

A comprehensive 88-page illustrated booklet on soldering, by W. R. Lewis, B.Sc. (Lond.), has been issued free of charge by the Tin Research Institute, Fraser Road, Greenford, Middlesex, under the title *Notes on Soldering*. In a foreword, Mr. Lewis states that while soft solders have been in use since ancient Egyptian times and there has been plenty of time to develop alternative means of joining metals and to find ways of manufacture that avoid altogether the need for soldering, the fact remains that more soldering has been done in the last few years than ever before. This is due to the successful development from the copper-bit soldering process to fully mechanized methods for the mass production of telephones, radios, radiators for motor-cars, cans for foodstuffs, and every kind of hollow-ware made from tinplate, sheet steel, copper, and brass. Mr. Wilson's chapters include a general introduction on the nature of soldered joints, a description of the basic steps in soldering, and its mechanism, and a detailed description of practical methods. There is a special section on the soldering of joints in lead pipes, largely contributed by Mr. H. C. Harris, of the Lead Industries Development Council, which should prove particularly valuable in the gas industry. The remainder of the book concerns commercial forms of solder, specifications, the effect of antimony, a note on impurities, reclaiming solder and economy in its use, toxicity, and chemical analysis. There is also a useful bibliography.

* * *

Henry Balfour & Co., Ltd., Durie Foundry, Leven, Fife, have issued two new brochures dealing with part of their work as gas and chemical engineers and iron-founders. The first deals with condensers and, after a brief note on the Balfour organization and the technical advice available to customers, gives an illustrated review of the function and development of condensers in gas-works. It then reviews the Company's atmospheric and water evaporative coolers, horizontal water tube condensers, vertical water tube condensers, supervertical condensers, and washer coolers, concluding with notes on theoretical considerations involved in the design and performance of water tube condensers. The second brochure similarly treats the Company's gas washers.

## The Coles Electric Hoist

We have received from Steels Engineering Products, Ltd., 6, Avonmore Road, Fulham, W.14, particulars of Coles electric hoists for which the claims put forward are streamlined design, rugged gearing, safety, and high efficiency, combined with low operational and maintenance cost. These hoists are steel fabricated throughout, compact, with low headroom and, being totally-enclosed, give satisfactory service in exposed positions or dusty air. All gearing runs in a sealed oil bath inside the drum. It is thus completely protected, perfectly lubricated, dustproof, and foolproof. The standard British motor, totally-enclosed, is easily accessible and can be supplied in either A.C. or D.C. for all normal voltages. Coles electric hoists are readily adaptable to all types of suspension or travel and can be fitted with any desired form of travel, either hand or electric. They are also suitable for use in standard double girder crab. They are available in 10 cwt., 1, 1½, 2, 3, and 6 ton capacities and can be adapted for any special requirements.

## Heat Storage Vessel

A large steel heat storage vessel has been built by G. A. Harvey & Co. (London), Ltd., for a new generation station of the linoleum factory of J. Williamson & Son, Ltd., Lancaster. The generating station will supply steam and electricity for process purposes in the factory, the overall efficiency being 65%. The high efficiency is achieved by combining the supply of heat with electricity as advocated for district heating schemes and the steel vessel plays an important part in maintaining a suitable balance between electricity and steam loads on the generating plant. The vessel, 77 ft. by 12 ft., is built from 1 in. thick steel plate and weighs 70 tons. When installed and working it will stand in an upright position and contain 300 tons of water at a pressure of 120 lb. per sq. in. The high working pressure will enable the water to be superheated to a temperature of 345° F. without boiling. By passing steam into the vessel from the turbo-generator sets, extra electricity will be generated when the factory's steam demand is low, and when the reverse conditions obtain and the factory requires extra steam, hot water from the vessel is available in abundance for the boiler plant without the need to use steam for "feed heating," so assisting in the supply of heating steam for the factory.

## New Convector Fire

With gas at 1s. 4d. per therm it costs about a penny an hour to run the new FA-Neat gas convector fire, Type FA/7 which is now in production and coming on to the market. No flue is needed and there are therefore no heat losses up the chimney. The fire is easily installed with flexible tubing and provides an attractive warm red radiant glow in addition to convected heat, carefully balanced for comfort. The pink-beige stove enamel finish blends delightfully with any hall or room setting.

The fire is 28 in. high and 15¾ in. wide and has a rated gas consumption of 6,000 B.Th.U. per hour, using town gas with a calorific range of 400-530 B.Th.U. per cu.ft. Gas is supplied through a ⅜ in. B.S.P. female inlet nozzle.

# GAS STOCKS AND SHARES

Main news of the week of interest to the Stock Exchange has been the announcement of compensation terms for shareholders in the steel firms to be taken over if the Iron and Steel Nationalization Bill became law. The Bill sets up an Iron and Steel Corporation of Great Britain which will become the sole shareholder of 107 firms and their subsidiaries. All the major units in the industry are affected and the total issued capital of the companies is about £195 mill. Compensation is estimated to require about £300 mill. of Iron and Steel Stock. Steel shares were a centre of attraction for several days and, though less active than on Monday, closed the week still monopolizing attention. Prices generally were firm since large buyers were willing to enter the market at just below current prices; selling orders were small.

Towards the end of the week, the influence of President Truman's unexpected victory at the U.S. polls was sharply felt, a result welcomed in London as ensuring the continuance of American aid to Europe. The demand for British Funds was keen and tended to spread to other high-class stocks.

"Markings" were at their highest on Nov. 1 at 7,500, closing at 6,614 on Nov. 4. Gas dealings totalled 240, being at their highest on Nov. 3 with 66 deals recorded.

The week's official price changes were:

**OFFICIAL LIST**

| | | | |
|---|---|---|---|
| Associated Gas & Water U'd'tgs., ord. (xd. Nov. 3) | 22/9 | — 23/9 | + 9d. |
| Bath, cons. ord. 5 p.c. basis | 104 | —109 | + 1 |
| Brighton, &c., 5 p.c. std. cons. | 103 | —103 | + 1 |
| Croydon, sliding scale | 119 | —124 | + 1 |
| Hastings & St. L., 5 p.c. std. | 100 | —105 | + 3 |
| Plymouth and Stonehouse, ord. | 110 | —115 | + 2 |
| South Metropolitan, ord. | 102 | —107 | + 2 |

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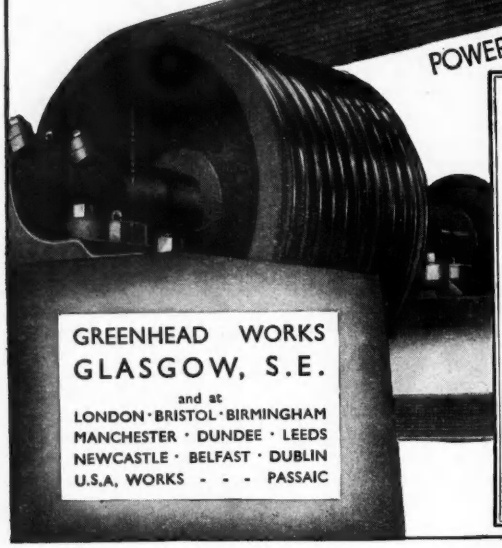

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